

Department of Biomedical Engineering  
KPR Institute of Engineering and Technology



# KPR Institute of Engineering and Technology

Arasur, Coimbatore - 641407

www.kpriet.ac.in T: 0422-2635600

"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. K. S. Tamilselvan HoD/BME**

## Highlights of this month

### INDUSTRY VISITS

### EVENTS

### STUDENT ACHIEVEMENT / PARTICIPATION

### Faculty Contribution

Quarterly Newsletter: Department of Biomedical Engineering

# EDITORIAL BOARD

---

## CHIEF PATRON

Sri. K. P. Ramasamy, Chairman, KPRIET

## PATRON

Dr. D.Saravanan, Principal, KPRIET

## PRESIDENT

Dr. K. S. Tamilselvan, HoD/BME, KPRIET

## FACULTY COORDINATOR

Mr. R. Krishna kumar, AP-II/BM

## EDITORS

Ms. Damini J, III BME

Mr. – Sudharshan V III BME

Ms. Jeyati V – II BME

Mr. Harshavardhan V M – II BME

Ms.Sruthika V– I BME

Mr. Viswathman K S - I BME



## 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 265 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 (8 Faculty members) have completed their PhD and three faculty members are pursuing their PhD. The Department is accredited with Tier-1 NBA on July 03, 2024 for three years.

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, Royal Care Super Speciality Hospital, Aravind Eye Care Hospital, GEM Hospitals, 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 imbibed **through lifelong learning** with **ethics and moral values**

## Program Specific Outcomes

- PSO 1: Design and evaluate medical solutions using **biosensors, biomaterials, biomechanics, and diagnostic and therapeutic equipment** for the healthcare industries.
- PSO 2: Identify, analyze, solve and develop algorithms for addressing **healthcare** problems using the software skills acquired through **bio-signal and image** processing advancements.

## Program Educational Objectives

Graduates of Biomedical Engineering, four years after graduation, will;

- PEO 1: Apply the knowledge gained from **biomedical engineering** to help solve the **technological problems in industries**
- PEO 2: Design and develop **healthcare products** and processes through continuous **skill upgradation and research**
- PEO 3: Demonstrate **professional and ethical standards** of behavior and commit to **lifelong learning** to meet the needs of society

**Industry visits by the Department during October to December 2025**

| S. No. | Date of Visit | Name of the Industry visited by the faculty |
|--------|---------------|---------------------------------------------|
| 1.     | 03.10.2025    | Biomedical Techniques                       |
| 2.     | 08.10.2025    | KOOPER Medical Technologies                 |
| 3.     | 15.10.2025    | SUMMITS HYGRONICS PVT LTD                   |
| 4.     | 16.10.2025    | Enthu Technology Solutions                  |
| 5.     | 16.10.2025    | Prema Hospital                              |
| 6.     | 08.10.2025    | Ranjan Medical Centre & Hospital            |
| 7.     | 25.10.2025    | Aadhi Hospital                              |
| 8.     | 01.11.2025    | Women's Centre by Motherhood Hospital       |
| 9.     | 29.10.2025    | Auro Lab                                    |
| 10.    | 14.11.2025    | Akas Infusions                              |
| 11.    | 14.11.2025    | ABIO International Healthcare LLP           |
| 12.    | 14.11.2025    | EndoNest                                    |
| 13.    | 18.11.2025    | Fullfill Electric                           |
| 14.    | 26.11.2025    | Amaravathi Irrigations                      |
| 15.    | 26.11.2025    | Udhayam Medicare System                     |
| 16.    | 29.11.2025    | Phaarma One (India) Private Limited         |
| 17.    | 29.11.2025    | SOLTO Innovations                           |
| 18.    | 12.12.2025    | Highland Hospital                           |
| 19.    | 13.12.2025    | Gurucharan Industries                       |
| 20.    | 04.12.2025    | NG Hospitals                                |
| 21.    | 11.12.2025    | DRDO - Industry Academia - COE              |
| 22.    | 20.12.2025    | KAV Biomedical                              |

### EVENT – 1

#### Understanding Breast Cancer - Prevention, Detection and Treatment

The guest lecture on “Understanding Breast Cancer – Prevention, Detection and Treatment” was held on 14th October 2025 at Ragam Hall with 150 student participants. Organized by the Department of Biomedical Engineering and WEC, the session featured Dr. R. Arulmurugan from GEM Hospital. The lecture focused on breast health, early detection, and preventive care, promoting awareness and proactive health practices among students, aligned with SDGs 3, 4, 5, 9, and 10.



### EVENT – 2

#### Capsule course on Endoscopy and Laparoscopy

The capsule course on “*Endoscopy and Laparoscopy*” was conducted on 11th October 2025 at the II BME Classroom. Organized by the Department of Biomedical Engineering, the session was convened and delivered by Mr. R. Krishna Kumar, with 39 students actively participating. The course provided insights into the clinical applications of endoscopy and laparoscopy, enhancing students’ understanding of minimally invasive diagnostic and surgical techniques. Upon completion, the course was reflected in the students’ grade sheet as a non-credit offering. The program aligned with SDGs 3, 4, and 15, promoting healthcare knowledge and quality education.



### EVENT – 3

#### Biosignal Interface and Analysis using LabVIEW

The One Credit Course on “*Biosignal Interface and Analysis using LabVIEW*” was conducted from 14th to 16th October 2025 at the III BME Classroom for 71 students. Organized by the Department of Biomedical Engineering and coordinated by Ms. T. Gayathri, the session was delivered by Mr. Boopathi Sakthivel, Founder & CEO of Prashan Medical Technologies. The course provided hands-on training in LabVIEW, covering sensor integration, data acquisition, signal processing, and hardware interfacing using myDAQ and Arduino. Students gained practical exposure to graphical programming and real-time biomedical signal analysis, enhancing their industry-oriented skills in line with SDG 3 – Good Health and Well-being.



### EVENT – 4

#### Awareness on Cancer

The guest lecture on “*Awareness on Cancer*” was conducted on 25th October 2025 at Pallavi Hall for 43 faculty members. Organized by the Department of Biomedical Engineering in association with Faculty Affairs, the session was coordinated by Mr. R. Krishna Kumar and Ms. D. Sudarvizhi. The session was delivered by Dr. Manikandan Ramalingam, Consultant Surgical Oncologist from Royal Care Super Speciality Hospital, who provided valuable insights on cancer awareness and prevention. The program was highly interactive and helped participants understand the importance of early detection and proactive health measures, aligning with multiple SDGs including 3, 4, 5, and 10.



### Event-5

#### Industry One credit course on Medical Electronics Design

The Industry One Credit Course on “*Medical Electronics Design*” was conducted on 22nd October 2025 for 77 students. Organized by the Department of Biomedical Engineering, the program was convened by Dr. A. Allwyn Gnanadas, with Mr. Guruprasanth, CEO of Medsby Healthcare and Engineering Solutions, as the resource person. The course provided hands-on training in microcontroller programming, sensor interfacing, physiological data acquisition, and digital signal processing. Students also gained experience in 3D modeling and prototype development, integrating electronic and mechanical designs. The program enhanced industry-oriented skills and innovation, aligning with multiple SDGs including 3, 4, 8, 9, 12, and 17.

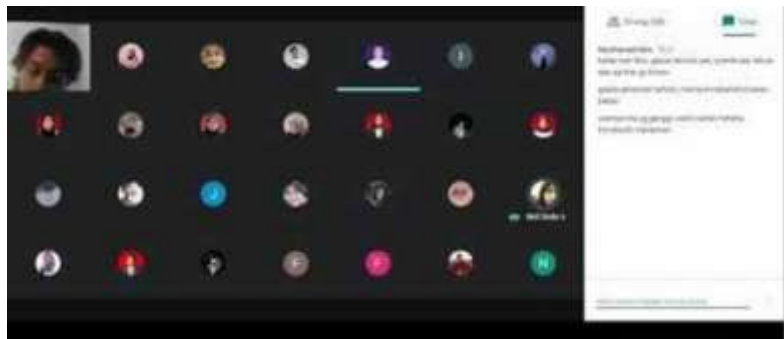


### EVENT – 6

#### Five day Online FDP on "New generation Smart Healthcare systems and Medical Equipment Handling"

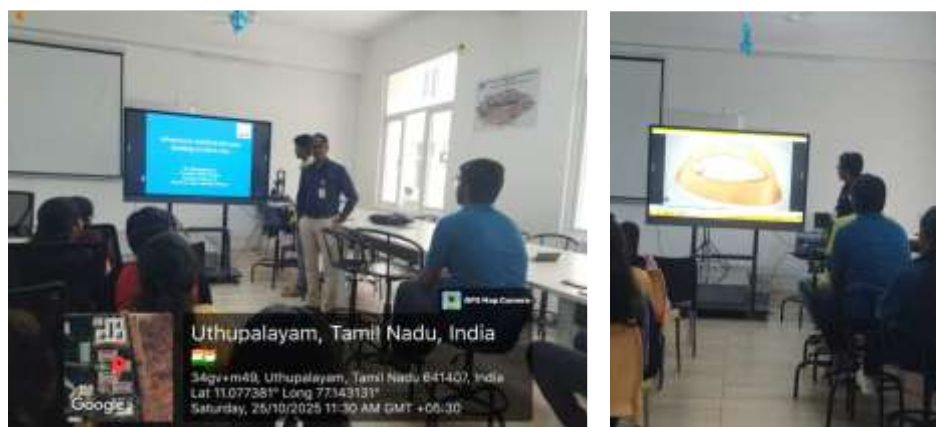
The Five-Day Online Faculty Development Program on “*New Generation Smart Healthcare Systems and Medical Equipment Handling*” was conducted from 27th to 31st October 2025 via Zoom. Organized by the Department of Biomedical Engineering and convened by Ms. D. Sudarvizhi, the FDP witnessed participation from 10 internal and 38 external faculty members.

The program featured expert sessions from doctors, industry professionals, and academicians from reputed institutions, focusing on emerging healthcare technologies and equipment handling. The FDP facilitated knowledge sharing, skill enhancement, and professional networking among participants, aligning with SDGs 3, 4, 8, 9, and 17.



**EVENT – 7****Advances in Artificial Skin and grafting for burn care**

The guest lecture on “*Advances in Artificial Skin and Grafting for Burn Care*” was conducted on 25th October 2025 at the Biomechanics Lab for 38 students. Organized by the Department of Biomedical Engineering in association with KPR Medical Centre, the session was coordinated by Ms. T. Gayathri and Ms. D. Sudarvizhi. The session was delivered by Dr. T. Krishnakumar, Consultant Plastic Surgeon from Royal Care Hospital, who provided insights into skin anatomy, types of burns, and advanced skin substitutes. The lecture enhanced students’ understanding of modern burn care techniques, aligning with SDG 3 – Good Health and Well-being.

**EVENT – 8****AI, IoT and Automation: Transforming Embedded Systems for Industry 4.0**

The expert talk on “*AI, IoT and Automation: Transforming Embedded Systems for Industry 4.0*” was conducted on 29th October 2025 at Thanam Hall with the participation of 200 students. Organized by the Department of Biomedical Engineering in association with CDC, the session was convened by Mr. N. Rajasingam and coordinated by Ms. T. Gayathri and Mr. R. Krishna Kumar. The session was delivered by Mr. C. Gnanavel Couppousamy (Lenovo) and Mr. R. Manickam (Datatech Genius), who shared insights on AI, IoT, and automation in modern embedded systems. Students gained exposure to industry applications, smart technologies, and emerging trends in Industry 4.0, aligning with multiple SDGs including 3, 4, 9, 11, and 12.



### EVENT-9

#### BioFusion 2025: Bridging Embedded Intelligence and Biomedical Innovation

The Project Expo “*BioFusion 2025: Bridging Embedded Intelligence and Biomedical Innovation*” was conducted on 29th October 2025 at the BME Project Laboratory with the participation of 200 students. Organized by the Department of Biomedical Engineering, the event was convened by Mr. N. Rajasingam and coordinated by Ms. T. Gayathri and Mr. R. Krishna Kumar. The expo showcased innovative student projects integrating embedded systems, AI, and biomedical applications to address real-world healthcare challenges. Participants demonstrated creativity, technical skills, and interdisciplinary knowledge while receiving valuable feedback from faculty and industry experts, aligning with SDGs 3, 4, 9, 11, and 12.



### EVENT – 10

#### Industry Exposure visit

The Industry Exposure Visit was conducted on 26th November 2025 at MedMall, Coimbatore, for 70 first-year Biomedical Engineering students. Organized by the Department of Biomedical Engineering in association with S&H (IET), the visit was convened by Ms. P. Sreelatha and co-convened by Mr. R. Krishna Kumar. During the visit, Dr. Senthil Nandan shared insights on healthcare industry trends, innovation, and the importance of bridging academic knowledge with real-world applications. The experience enhanced students’ understanding of industry practices, encouraged entrepreneurial thinking, and paved the way for potential MoU collaborations and training opportunities, aligning with SDGs 3, 4, and 9.



**EVENT – 11****One Credit Course on Software tools for Biomedical Engineers**

The One Credit Course on “*Software Tools for Biomedical Engineers*” was conducted from 17th to 22nd December 2025 for II BME students. Organized by the Department of Biomedical Engineering, the program was convened by Mr. R. Krishna Kumar and co-convened by Dr. A. Allwyn Gnanadas, with Mr. Boopathi Sakthivel, CEO of Prashan Medical Technologies, as the resource person. The course focused on MATLAB proficiency, application of algorithms in biomedical contexts, and industry-standard project development. It enhanced students’ technical and analytical skills, aligning with SDGs 4, 9, and 17 by promoting quality education, innovation, and industry collaboration.

**EVENT – 12****Five Days Pedagogical Enhancement Workshop**

The expert talk “*TLP 360*” was conducted from 17th December 2025 to 23<sup>rd</sup> December 2025 at the Biomechanics Lab for 15 faculty members. Organized by the Department of Biomedical Engineering. The session was convened by Dr. P. Sreelatha, Dr. D. Sudarvizhi, Dr. T. Gayathri, Dr. P. Arunkumar and Dr. N. Rajasingam. The session focused on creating awareness about the teaching-learning process, particularly assessment methods and the use of rubrics. It emphasized fair and structured evaluation, improved documentation, and alignment with learning outcomes, fostering a collaborative approach toward continuous improvement in teaching quality, aligned with SDG 4 – Quality Education.



### Students' Achievements & Participation

| S. No. | Name of the Student | Year | Detail about the Achievement                                         | Organizing Institute                            |
|--------|---------------------|------|----------------------------------------------------------------------|-------------------------------------------------|
| 1.     | AMRITHA G           | I    | KPR Mini Marathon – 10 <sup>th</sup> position                        | KPR Institute of Engineering and Technology     |
| 2.     | JAGAJIT B           | II   | VIYUGAM 2K25 (Bionics) IDEATHON – I prize                            | PPG Institute of Technology                     |
| 3.     | KEERTHIKA DEVI S S  |      | Viyugam 2K25 (Bionics) IDEATHON – I prize                            | KPRIET                                          |
| 4.     | MOHANA PRIYA T K    |      | Sensonics'25 – II Prize                                              | Kongu Engineering college                       |
| 5.     | PARAMESHVARAN G     |      | Anna university inter zonal cricket tournament 2025 -2026 – II Prize | KSR College of Technology                       |
| 6.     | ROHIT SAH           | III  | Dr. Kalam Young Achiever Award 2025                                  | World Youth Federation                          |
| 7.     | UMASHANKER MURAW    |      |                                                                      |                                                 |
| 8.     | SAURAV KAFLE        |      |                                                                      |                                                 |
| 9.     | BISHNU THAKUR       | IV   | Anna University Inter Zone Tournament 2025 – 2026 - II prize         | K. S. RANGASAMY COLLEGE OF TECHNOLOGY           |
| 10.    | ADITYA PATEL        |      |                                                                      |                                                 |
| 11.    | GOKUL G             |      | Anna University Athletic Championship – I Prize                      | Kongunadu College of Engineering and Technology |
|        |                     |      | Zone IX Athletic Championship – I prize                              | Coimbatore Institute of Technology              |
|        |                     |      | Zone IX athletic Championship – II prize                             | Coimbatore Institute of Technology              |
| 12.    | KISHORE KUMAR M     |      | Dance competition – II prize                                         | KPRIET                                          |

**Faculty Contribution**

| S.No. | Name of the Faculty member                    | Details of Contribution                                                                                                 |
|-------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 1.    | Dr. D. Sudarvizhi,<br>Associate Professor/BM  | Completed two-week internship at Puma Technovation, Coimbatore                                                          |
| 2.    | Dr. A. Allwyn Gnanadas<br>AP-III/BM           | Awarded Dr. Kalam Awards 2025 – 8th Year Inspirational Event<br>Completed two-week internship at World youth Federation |
| 3.    | Dr. N. Rajasingam<br>AP-III/BM                | Completed two-week internship at IIITD, Kancheepuram                                                                    |
| 4.    | Mr. R. Krishna Kumar,<br>AP-II/BM             | Completed one-week internship at Prashan Medical Technologies,<br>Coimbatore                                            |
| 5.    | Ms. S. Kanimozhi,<br>AP-I/BM                  | Completed one-week internship at CMC Hospital, Vellore                                                                  |
| 6.    | Ms. S. Kavitha,<br>Senior office Assistant/BM | Achieved KPR Super Strikers Trophy at KPRIET.                                                                           |