

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

Highlights of this month

01.04.2023
Alumni Interaction

02.04.2023
Parent Meeting

27.03.2023 - FN
Strategic Plan Review Meeting

27.03.2023 - AN
Seminar on Mechanism of Joints

Student Participation /
Achievements

Faculty Contribution

"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

Monthly Newsletter: Department of Biomedical Engineering

EDITORIAL BOARD

CHIEF PATRON

Sri. K. P. Ramasamy, Chairman, KPRIET

PATRON

Dr. Akila Muthuramalingham, Principal, KPRIET

PRESIDENT

Dr. D. Ganesh kumar, HoD/BME, KPRIET

FACULTY COORDINATOR

Mr. R. Krishna kumar, AP/BME, KPRIET

EDITORS

Ms. B. Igriva – III BME

Ms. A K Shwetha – III BME

Ms. Ridana Sri – III BME

Ms. R. Kaviyah – II BME

Mr. D. Sharan – II BME

Ms. P.Pavithra - II 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 200-250 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 Ph.Ds. and 95 are in the process of completing their Ph.Ds. 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 Faculties in the Department is Fifteen. Out of which, 60% of the faculty Members (9 Faculties) have completed their PhD and Five faculties 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 Aravind Eye Care Hospital, Helix Private Ltd., GEM Hospitals, Ganga Medical Center and Hospital, Masonic Medical Centre for children, Waxwing Medical Technologies, Vital Bio-systems 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, Proteus, Pspice simulation through KPI 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 lifetime membership in various

Professional Societies like ISTE and BMESI to gain knowledge through various programs conducted by these bodies across the Nation.

Vision of the Department

To be a **center of excellence** for **dissemination of knowledge, research and development** in biomedical and allied engineering fields to serve the society.

Mission of the Department

The Mission of the Department is to

- To impart value-based education in biomedical engineering with state-of-the-art facilities.
 - To build an integrated team of biomedical engineers to foster the technologies through research, development and innovation.
 - To be in pace with healthcare industries by practicing lifelong learning with ethical and moral values.

**LIST OF EVENTS / PROGRAMS CONDUCTED
DURING FEBRAUARY 2022-23**

S. No.	Date	Type of Event / Program	Title of the Event
1.	13.04.2023	ISR Activity	Free Medical Camp in collaboration with GEM Hospital, Coimbatore
2.	24.04.2023	Association function	BMESI Association Valedictory Function & offer letter distribution to Final year BME students
3.	28.04.2023 & 29.04.2023	Hands-on-training and Workshop	RESQMED'23
4.	29. 04.2023 (Forenoon)	Webinar	Recent Advancements in Tissue Engineering

Industry visits by the Department

S. No	Date of Visit	Name of the Industry visited by the faculty during March 2023
1.	01.04.2023	RT pro, Coimbatore

EVENT – 1**Free Medical Camp in collaboration with GEM Hospital, Coimbatore**

Department of Biomedical Engineering and KMC, KPRIET in collaboration with GEM hospital, Coimbatore organized an one day free medical camp to students and Faculty members of KPRIET. Dr. Sri Saranya expert consultant was the doctor who made her valuable time to help the student and faculty for getting an idea about their problems. Some of the most common menstrual problems addressed were painful periods, heavy periods, irregular periods, absent periods. Also, people with other health conditions may find that symptoms of these get worse before their periods. Some factors associated with primary dysmenorrhea like stress ,a higher body mass index, also known as BMI, attempts to lose weight, depression or anxiety, heavy periods and a family history of painful periods were discussed. The expert insisted the following points to the participants. If a person has experienced any of the following, they should speak with a doctor. Around 60 students and Faculty members have consulted the Dr. and get benefitted.



EVENT – 2**BMESI Association Valedictory Function & Offer letter distribution to Final year BME students**

The valedictory function of BMESI Association for the Academic year was conducted on 24.04.2023 under the guidance of Dr.D.Ganeshkumar, Professor & Head, Department of Biomedical Engineering, KPRIET. The Event was initiated with the welcome address by Ms. , III year Biomedical Engineering student. The certification and awards were distributed to awardees of various aspects such as Academic toppers, 100% attendance holders, Extra-curricular, Co-curricular activities, sports and Technical and Non-technical NSC active participants. In parallel with the Event, Offer letter were distributed to Final year students by the Head of the Department and Mentors of Final year BME.



EVENT – 3 RESQMED'23

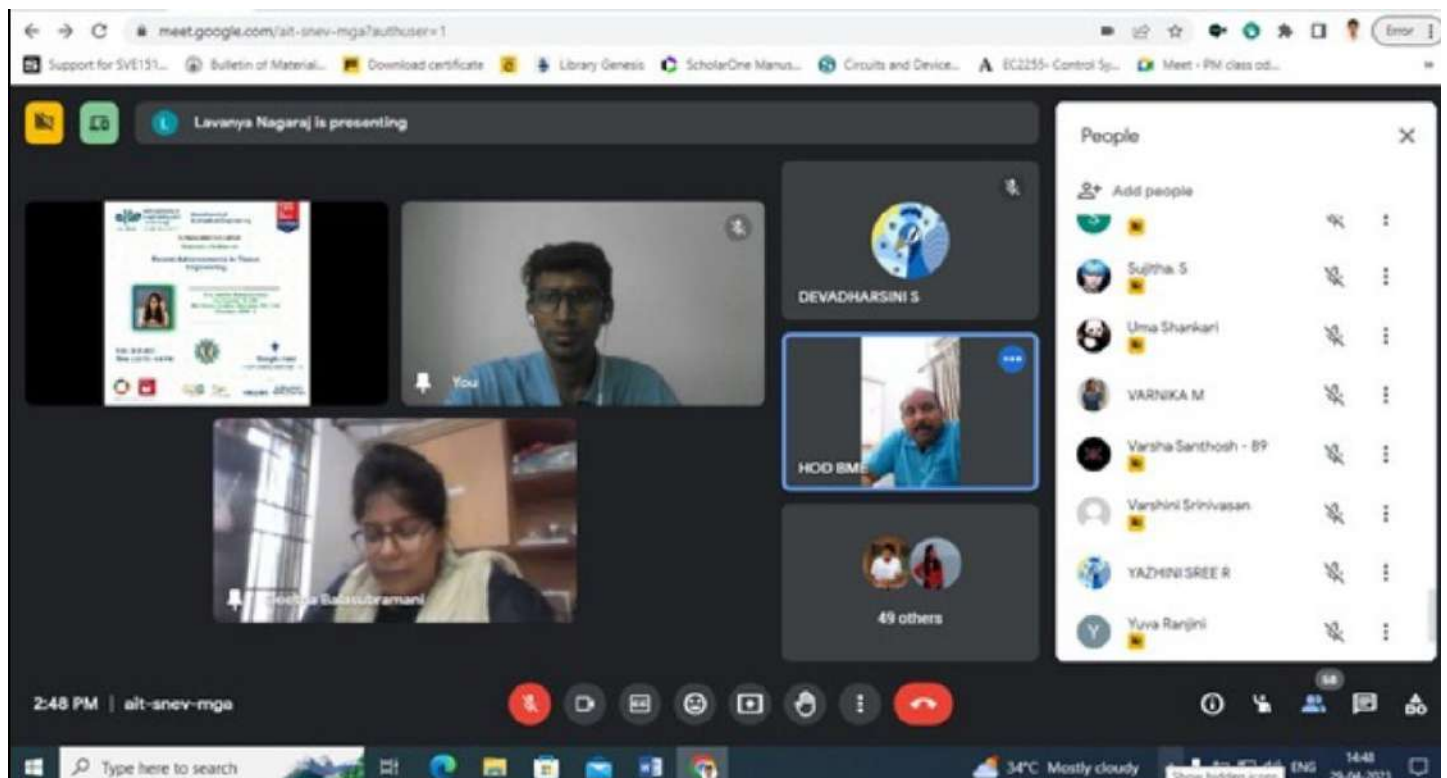
The Department of Biomedical Engineering conducted the workshop. It was aimed at providing healthcare professionals with practical experience in using medical equipment in a clinical setting. The workshop began with an introduction to the importance of hands-on training in medical equipment use, and the role of such training in improving patient outcomes, reducing risks, and increasing efficiency in healthcare settings. Then provided an overview of the different types of medical equipment used in emergency medicine and the different features and functions of each. The participants were then divided into small groups, and each group was assigned a specific medical equipment to work with. The trainers provided hands-on demonstrations of each piece of equipment, including how to set it up, calibrate it, and use it effectively in a clinical setting. The participants were then given an opportunity to practice using the equipment themselves, with guidance from the trainers. At the end of the session, the participants were asked to provide feedback on the workshop. Throughout the session, the trainers emphasized the importance of safety protocols and best practices for using medical equipment, and provided tips and tricks for troubleshooting common issues that may arise. The participants were also encouraged to ask questions and share their experiences using medical equipment in their own clinical settings. The overwhelming response was positive, with many participants noting that the hands-on training had been a valuable learning experience that would help them improve their skills and knowledge in using medical equipment. Overall, the Hands-On Training on Medical Equipment workshop was a success, providing participants with practical experience and valuable insights into the proper use of medical equipment



EVENT – 4

Webinar on Recent Advancements in Tissue Engineering

Biomedical Engineering Society of India had organized a webinar on Recent Trends in Tissue Engineering on 29.04.2023. Dr. D. Ganesh Kumar, HOD/BME gives the welcome address, Ms. Lavanyashree (II BME) BMESI office bearer introduced the industry expert Ms. Geetha Subramani, Co-Founder & CRO, MedCuore Medical Solutions Pvt. Ltd Chennai. The expert introduced about her company's profile and clearly describe the tissue engineering needs and its current developments. Selection of biomaterials consider suitability of processing techniques, biocompatibility, patient comfort or acceptance, surgical or clinical considerations, FDA considerations, sterilization cost, and materials availability. In addition, following factors need to be considered: Length of implantations, physiological environment around the implantation, response of materials to body environment, function properties and aesthetics. Common polymers BES1003 powered by AWESOME Approval is required. Page 1 of 2 used in biomedical applications are Collagen, keratin, gelatin, sodium alginate, poly (lactic acid), polyglycolide, silicones, poly (methyl methacrylate) and similar acrylates and UH MW Polyethylene. Bulk modulus (GPA) and tensile strength of many polymers were compared. Advantages of UHMW PE in medical devices were highlighted. The uses and properties of many polymers used in medical devices were presented. She explained and elaborated on joint replacement devices. She also described in details the total hip arthroplasty. She presented the pros and cons of various metals used for tissue engineering applications. She reviewed briefly about wound dressing biomaterials and nanofibres used in these applications. She explained the stent grafts and vascular grafts in cardiac Tissue Engineering. She summarized the webinar as biomedical plastics is a growing field, there will always be a need for plastics in medical devices. Understanding of basic material properties and functionary requirements in human body are essential for development of these devices. Mr. Vishnu (III BME) delivered the vote of thanks.



Student Achievements – Technical / Non-Technical

S. No	Name of the Students	Year	Name of the Event / Program	Achievements
1.	Ms. S. Mruthika	II BM	Completion of a greater number of Coursera course (65 Courses) in the Department	Valedictory function of Association of Medico Sapiens, KPRIET
2.	Mr. V. Saikarthik		Singing Competition, (I prize with Cash Award Rs.2000/-)	Annual Day, KPRIET
3.	Ms. S. Bhuvaneshwari Ms. N. Lavanyashree		Academic Toppers of II BM	Annual Day, KPRIET
4.	Ms. Kowshika	III BM	Overall Best Student in Co-curricular and Extra-curricular activities among Third year students of A.Y 2022-23	Annual Day, KPRIET
5.	Ms. R. Kowshika Ms. E. Ramya Ms. B. Neha Nesnas		Academic Toppers of III BM	Annual Day, KPRIET
6.	III BM class		SDG Warrior Award	Annual Day, KPRIET
7.	Mr. S. Anush	IV BM	Overall Best Outgoing student	Annual Day, KPRIET
8.	Ms. N. Soniya		Best Outgoing Student of the Year	Annual Day, KPRIET
9.	Ms. N. Jayashri		Best Student Volunteer in Social/Community Service	Annual Day, KPRIET
10.	Ms. N. Soniya, Ms. K. Abarna		Academic Toppers of IV BM	Annual Day, KPRIET
11.	IV BM		Best Class Award	Annual Day, KPRIET

Faculty Contribution

Patents / Achievements / FDP/ Conference and Workshops Attended

S. No	Name of the Faculty	Name of the Webinar/ Workshop/ FDP/ Internship/ Achievement	Organized by
1.	Dr.D.Ganeshkumar	Received Appreciation Award for receiving Funded project Rs.13,10,000/- from Ministry of Science and Technology.	KPRIET
	Dr. K. Rajasekaran	Received Appreciation on Annual Day for TNSCST Project Grant	KPRIET
2.	Dr. N. Rajasingam,	Received Appreciation on Annual Day for NPTEL Discipline Star & NPTEL Enthusiast Award	KPRIET
3.	Dr. S. Logeshkumar	Received Appreciation on Annual Day for 1. SERB Travel Grant 2. Best Researcher Award 3. Best Ph.D. thesis awarded by BMESI	KPRIET
4.	Ms. M. Swathy	Received Appreciation on Annual Day for TNSCST Project Grant	KPRIET
5.	Mr. R. Krishna Kumar	Selected for Eight Week Summer Faculty Research Fellowship (SFRF-2023) program from May 16 to July 14, 2023	CEP – QIP, IIT, Delhi

