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Kongunadu College Of Engineering And Technology Event Report

Department Of Biomedical Engineering

Organizes

Biomedical Engineering Society Of India (BMESI)

Sponsored

Six Days Short Term Training Program On

(A Value-Added Course)

“Modeling And Simulation Using Matlab And C”

Scheduled From 15.05.2026 To 21.05.2026

The Six Days Short Term Training Program commenced with a formal inaugural function with 37 participants. The program began with a warm Welcome Address delivered by Ms. S.N. Kavinayaa and a Felicitation Address by Dr. T. Ashok (HoD/BME). During the inaugural session, esteemed dignitaries shared their insights and expertise with the participants. Dr. J. Preetha (Dean Academic & IQAC – KNCET) highlighted the significance of modelling and simulating the vital system functions. Dr. R. Asokan, Principal motivated the students to get actively involved in enhancing their technical competence through interactive Value-Added Course and direct industrial engagements. Dr. P.S.K. R. Periyaswamy (Chairman, Kongunadu Educational Institutions) inspired the gathering to have practical skills and stay aligned with emerging technologies in biomedical engineering. The organizing team expresses its sincere gratitude and highest appreciation to the honorable Chairman and the Principal for providing state-of-the-art facilities, steadfast support and constant encouragement to ensure the resounding success of this event.



P.S.R. Engineering College Event Report

The Department of Biomedical Engineering, P.S.R. Engineering College, Sivakasi, in association with the Department of Electronics and Communication Engineering, organized IDEATHON'26. The event was conducted under the BME Association and the Biomedical Engineering Society of India Student Chapter with the objective of promoting innovative thinking and developing sustainable engineering solutions among students. The event was successfully organized with the support of the management, faculty members, industry experts, and student volunteers.



The program was conducted under the guidance of the Chief Patrons, Thiru. R. Solaisamy, Managing Trustee & Correspondent, and Er. S. Vigneswari Arunkumar, Trustee & Director. The Patrons of the event included Dr. J. S. Senthil Kumaaar, Principal, Dr. P. Marichamy, Dean, Dr. M. Shahul Hameed, Dean (Research), and Dr. P. Pitchipoo, IQAC Coordinator. The event was convened by Dr. T. Senthil, Professor and Head of the Department of Biomedical Engineering, and Dr. K. Valarmathi, Professor and Head of the Department of Electronics and Communication Engineering. The event was coordinated by Dr. J. Babitha Thangamalar, Dr. R. Vinoth, Dr. G. Karthikeyan, and Mrs. T. Saranya, Assistant Professors of the respective departments.

The Ideathon'26 aimed to encourage students to think creatively, identify real-world problems, and propose innovative and feasible solutions. It also focused on enhancing teamwork, technical knowledge, and presentation skills among participants. The event provided a platform for students to showcase their ideas and interact with experts from industry.

A total of 31 teams from various institutions actively participated in the Ideathon'26. The participants presented their innovative ideas in two major domains, The competition was conducted under the following technical domains:

1. Embedded Systems & IoT

Participants presented ideas related to:

Smart devices

Automation systems

IoT-based healthcare and environmental solutions

2. Artificial Intelligence & Machine Learning

Teams proposed innovative concepts involving:

Predictive analytics

Smart healthcare systems

Intelligent automation and data-driven solutions





B V Raju Institute Of Technology Event Report

Short Term Training Program (STTP)

on

3D Printing and Additive Manufacturing: Applications in Engineering and Healthcare

The Departments of Pharmaceutical Engineering and Biomedical Engineering successfully organized a Short-Term Training Program (STTP) titled “3D Printing and Additive Manufacturing: Applications in Engineering and Healthcare” The 1-week program was conducted in hybrid mode, combining both online and offline sessions.

The STTP witnessed enthusiastic participation from 70 students, representing diverse academic backgrounds such as Pharmaceutical Engineering, Biomedical Engineering, Mechanical Engineering, Chemical Engineering, and Pharmacy. Participants joined from reputed institutions including Jawaharlal Nehru Technological University Hyderabad, Adhiyamaan College of Engineering (Autonomous), Government Institute of Electronics – East Marredpally, Sri Indu Institute of Pharmacy, Shree Saraswati Institute of Pharmacy (Tondavali, Maharashtra), Karpagam Academy of Higher Education (Coimbatore), and Vishnu Institute of Pharmaceutical Education and Research.

The program was enriched by expert resource persons from IIT Hyderabad, NIPER Hyderabad, NIPER Kolkata, Osmania University, and NEHU University. The sessions covered fundamental principles of additive manufacturing, various 3D printing techniques, materials used, design considerations, and emerging applications in engineering and healthcare, including biomedical devices and pharmaceutical applications.

The primary objective of the program was to enhance awareness and understanding of 3D printing technologies, promote interdisciplinary learning, and bridge the gap between theoretical knowledge and practical applications. The STTP also aimed to encourage innovation, research orientation, and design thinking among faculty members, research scholars, and students.

The program received an encouraging response, with active participation, interactive discussions, and meaningful knowledge exchange throughout the sessions. Participants gained improved technical knowledge, exposure to real-world applications, and insights into research and innovation opportunities in additive manufacturing. The STTP successfully fostered collaboration across disciplines and institutions, making it a valuable academic and professional learning experience

Objectives

- To provide comprehensive knowledge on 3D Printing and Additive Manufacturing technologies and their applications in engineering and healthcare.
- To enhance interdisciplinary understanding among students from engineering and pharmacy backgrounds.
- To expose participants to recent advancements, research trends, and industrial practices in additive manufacturing.
- To promote innovation, design thinking, and research orientation in emerging manufacturing technologies.
- To bridge the gap between theoretical concepts and practical applications through expert talks and interactive sessions.

Outcomes

- Participants gained a strong understanding of additive manufacturing principles, materials, and 3D printing techniques relevant to engineering and healthcare domains.
- Enhanced awareness of real-world applications, including biomedical devices, pharmaceutical systems, and healthcare solutions.
- Improved interdisciplinary collaboration and academic networking among participants from various institutions.
- Faculty and students developed insights into research opportunities, innovation practices, and design-based problem solving.
- The program strengthened participants' readiness to apply 3D printing technologies in academic projects, research work, and industry-oriented applications.



Janani Radhakrishnan (Presenting)

Biomaterials Designed with Cues that Mediate Tissue Specific Cellular Responses

Preformed Scaffolds

Electrospun PLGA Aligned Nanofibers

Sintered 3D Scaffold

Core-shell fibrous mat

Injectable Scaffolds / 3D Printed

Gradient Nano-engineered Osteochondral Construct

Spatially varying cues: soft-hard interface

Differentiation cue co-delivered with stem cells

Injectable dual crosslinked with Ca^{2+} ions and Nanoparticles

Electrically conductive cue: rGO incorporated 3D printed hydrogel for cardiac cell differentiation

Structural cues: Artificial axons for myelinating Schwann cells in nerve tissue engineering

Compositional and Mechanical cues: Regenerate mineralized bone in rabbit segmental bone defect

Immunomodulatory cue and antioxidants: Accelerate chronic diabetic wounds

Nanoparticles / nanomaterials based drugs / vaccine delivery systems, cancer therapeutics

ACS Biomater Sci Eng., 2025
Biomaterials, 2018
Carbohydrate Polymers, 2018
J Mater Sci: Mater Med., 2022
J Biomed Nanotech, 2013

Kumar K (Presenting)

AKSHAR SMARTWATCH

A wearable device for the blind.

Features:

- Time & Date in Braille
- Notifications & Messages in Braille
- Internet Connectivity (Wi-Fi-enabled)
- Portable & Slim design

Affordable alternative to expensive imports.

COST & FEASIBILITY

- Current Braille cell cost: ₹6,000-₹10,000 each.
- ✓ Akshar cost: ₹500-₹700 per cell.
- Smartwatch prototype cost: ₹3,000-₹5,000.
- Scalable for mass production.

Janani Radhakrishnan

Kumar K

Jyothi G

Nandhini Yadav

J

26 others

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