

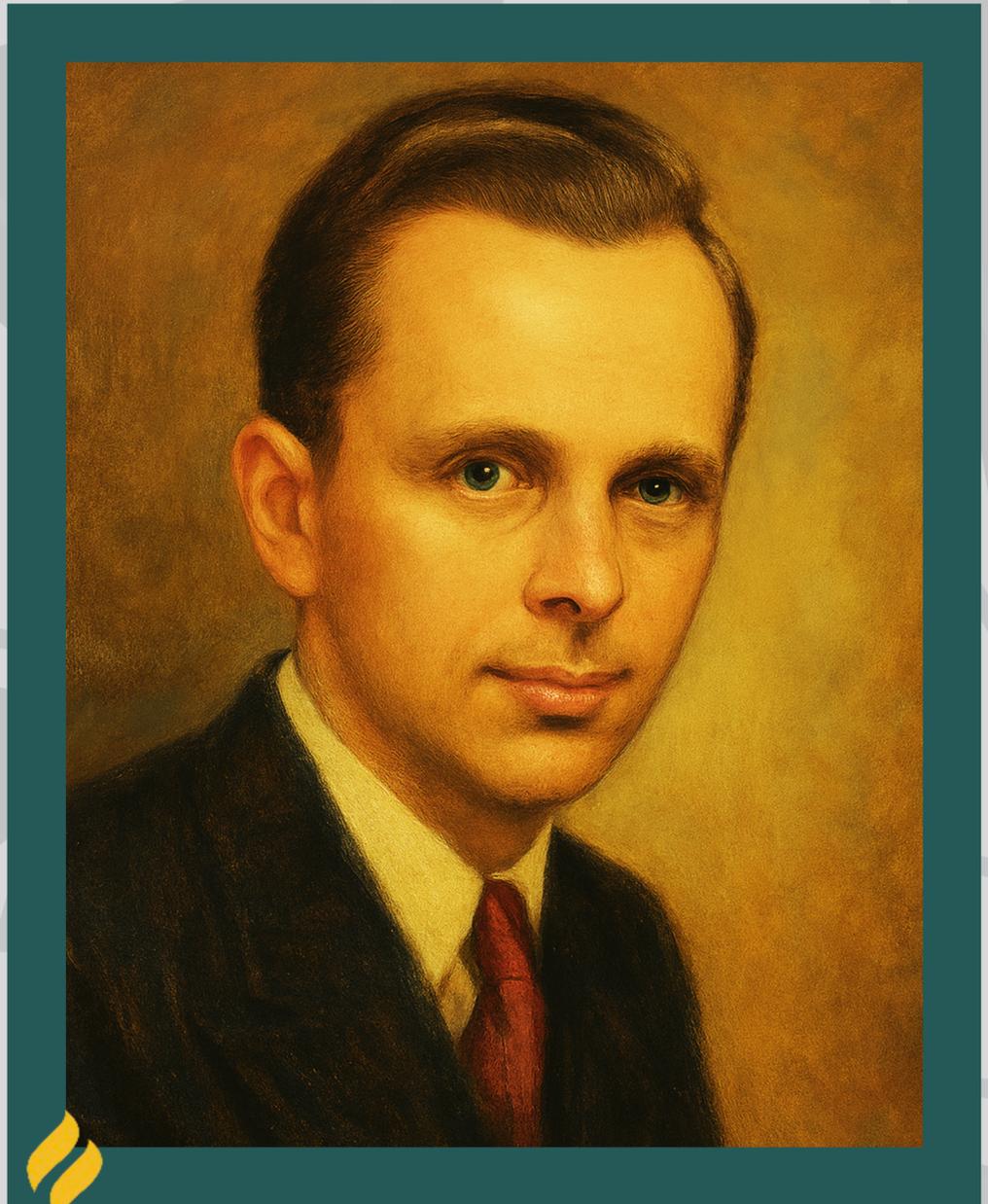
BIO ACTIVE

BIOMEDICAL ENGINEERING

MAGAZINE

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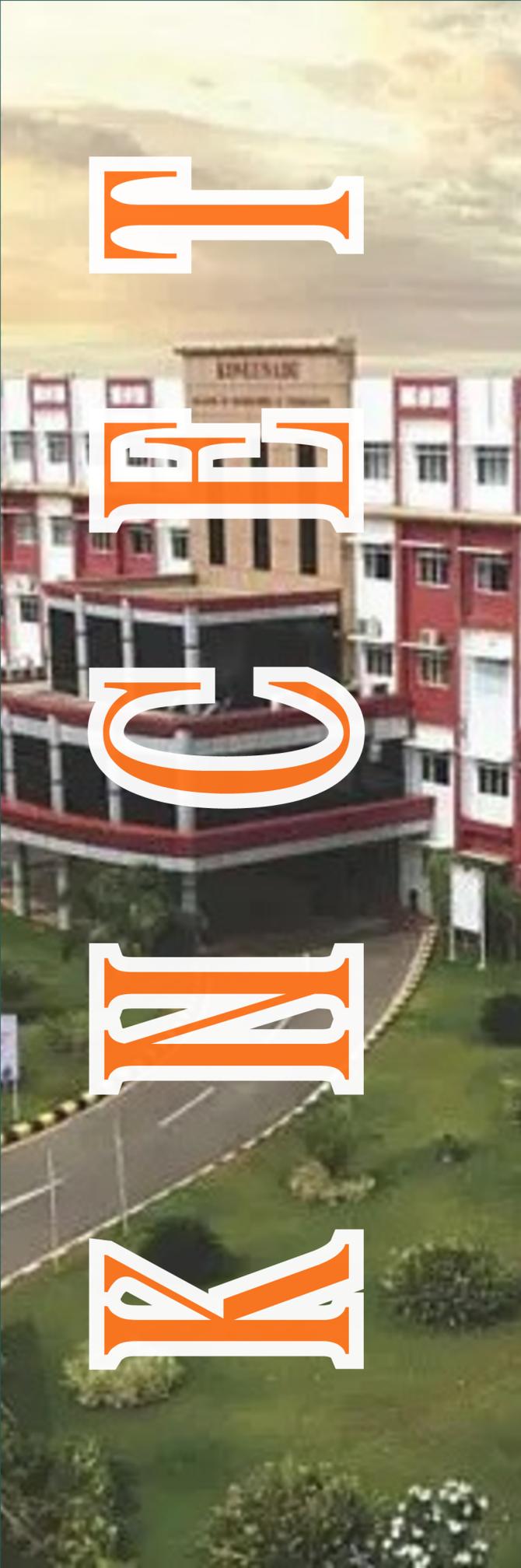
TURNING
IDEAS
INTO
REALITY



Kongunadu

College of Engineering & Technology
[Autonomous]

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VISION

To become an Internationally Renowned Institution in Technical Education, Research and Development by Transforming the Students into Competent Professionals with Leadership Skills and Ethical Values.

MISSION

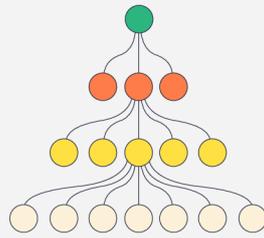
- Providing the Best Resources and Infrastructure.
- Creating Learner-Centric Environment and continuous Learning.
- Promoting Effective Links with Intellectuals and Industries
- Enriching Employability and Entrepreneurial Skills.
- Adapting to Changes for Sustainable Development.

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ABOUT THE DEPARTMENT

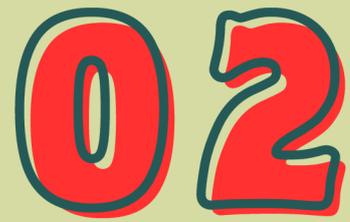


The Department of Biomedical Engineering was established in the year 2020 with an intake of 60 to address the prevailing health sector challenges. This four year degree programme will nurture the young minds with fundamental knowledge of Biological sciences such as Human Anatomy, Physiology, Pathology and Microbiology. With this the student would also gain knowledge about Electronics, Measurements and Instrumentation to Design, Analyze, Synthesize and Evaluate the Diagnostic and Therapeutic equipments such as X-ray, CT, MRI, PET, Ventilators, Pacemakers, Dialyzer to serve the Medical community. The students will be guided to have periodical visits to the hospitals for bridging the gap between the class room learning and the real time issues. Prosthetic devices for the physically challenged,

Therapeutic equipments the conventional medicines will also be part of the learning to this stream of engineers. This department has a well established relationship with industrial experts and physicians of different expertise to keep it updated and live up to the expectations of the contemporary world.

Through “ZYGOTE” association, the department organizes Guest Lectures, Workshops and Seminars on recent trends to enhance the technical knowledge and equip the skills of students. A committee on Anti-Drugs arranges awareness programs at regular intervals to address the adverse effects. Students are appreciated to have exposure to on field trainings like Hospital Training, Industrial Visits, Internships, NPTEL courses, IIT spoken tutorials, Value Added Courses and Onsite projects in various reputed organizations.

DEPARTMENT VISION, MISSION, PEO's, PSO's & PO's



VISION

To create biomedical engineering graduates through value based education and research with high ethical standards and ensuring professionalism in the health care industry.

MISSION

- Educating the learner to understand the principle, operation, design and application of biomedical instrumentation, electronics and measuring of biomedical signals in human being
- Creating an interdisciplinary learning environment to conceive new ideas.
- Developing competency for employability and entrepreneurship in core and interdisciplinary areas.

PROGRAM EDUCATIONAL OBJECTIVE (PEO'S)

- **PEO I** : Graduates shall be leaders in generating innovative knowledge at the interface of Biology and Engineering.

- **PEO II** : Graduates will show excellence in leadership skills, design, and model new equipments needed for health care and serve the society.
- **PEO III** : Graduates will demonstrate ethical standards, leadership skills, attitude, professional responsibilities, contribute positively to team building and keep themselves engaged in lifelong learning.

PROGRAM SPECIFIC OUTCOMES (PSO'S)

- **PSO1 Professional Skills** : Students shall be able to measure, model, manipulate, and make biological systems for powerful new biological technologies.
- **PSO2 Competency** : Students shall be able to apply the concepts of signal and image processing techniques to address the problems of healthcare.

PROGRAM OUTCOMES (PO'S)

Engineering Graduates will be able to :

- **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

03 TECHNICAL ARTICLES

WEARABLE BIOMEDICAL DEVICES: REVOLUTIONIZING HEALTHCARE

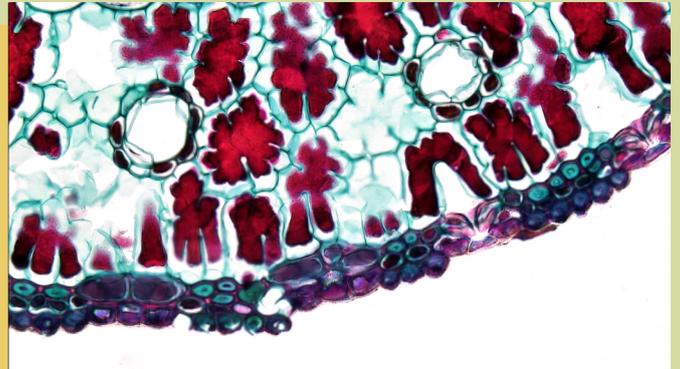


Wearable Biomedical devices are reshaping the landscape of modern healthcare by offering continuous, real time monitoring of physiological parameters. These compact, monitoring of physiological parameters. These compact sensors integrated systems are worn on the body and are capable of measuring the key health indicators such as heart rate, body temperature, glucose levels, oxygen saturation, and brain activity. The integration of wireless communication technologies, artificial intelligence, and cloud performs, wearable devices are enabling a shift from traditional, reactive care models to proactive, preventive and personalized healthcare.

At the heart of these systems are advanced sensors designed to detect and process biophysical or biochemical signals. These include Electrocardiogram (ECG) sensors for cardiac monitoring, Photoplethysmography (PPG) for pulse rate and SPO₂, accelerometers and gyroscopes for motion detection, and biochemical sensors for substances such as glucose and lactate. Wearable biomedical devices can be categorized based on their function and target application. In conclusion, Wearable biomedical devices are new era of continuous, data driven, and patient centered healthcare. As technology continues regulatory pathways become more streamlined, wearable biosensors are poised to become indispensable tools in mainstream medical practice and public health.

ABITHA S
IV YEAR/BME

STEM CELLS IN REGENERATIVE MEDICINE



Stem cells in regenerative medicine represent one of the most promising advancements in modern healthcare. These special cells can divide and transform into different types of body cells, helping to repair and replace damaged tissues naturally. Regenerative medicine focuses on restoring normal function in organs affected by injury, aging, or disease. Stem cell therapy gives new hope to patients with chronic and previously untreatable conditions. Stem cells are known as the “building blocks of life” because of their ability to regenerate. Different types - embryonic, adult, and induced pluripotent stem cells - are used in various treatments. In the laboratory, these cells can be guided to form heart, nerve, bone, or muscle cells.

Recent advancements combine stem cells with technologies like tissue engineering and 3D bioprinting, making it possible to create artificial tissues and organs. Research also focuses on using stem cells for neurodegenerative diseases and for diabetes treatment by developing insulin-producing cells. These innovations mark a major step toward personalized medical care. Although the field faces challenges like ethical concerns, high cost, and the need for safety assurance, continuous research and innovation are gradually overcoming these barriers. Stem cell therapy stands as a symbol of how science can heal the body from within, offering a future where damaged organs can be repaired and human life can be renewed naturally.

JANANISRI B
III YEAR/BME

ARTIFICIAL INTELLIGENCE IN MEDICAL IMAGING: TRANSFORMING DIAGNOSIS AND TREATMENT



Artificial Intelligence (AI) is revolutionizing medical imaging by enhancing the accuracy, speed, and efficiency of disease diagnosis. Using deep learning and image recognition algorithms, AI can analyze complex medical images such as X-rays, CT scans, and MRIs with precision comparable to or greater than human experts. It assists radiologists in detecting early signs of diseases like cancer, stroke, and cardiovascular disorders. AI-powered systems can also segment organs, measure tumor growth, and predict treatment outcomes, enabling personalized medical care. Moreover, automated image analysis reduces human error and workload, allowing faster clinical decision-making. Continuous advancements in cloud computing, data integration, and real-time analytics further expand AI's potential in telemedicine and remote diagnostics. AI also plays a vital role in medical image enhancement, reducing noise and improving visualization for clearer diagnosis. As AI continues to evolve, its integration with imaging technologies is paving the way for smarter, data-driven, and patient-centric healthcare systems that enhance both diagnosis and treatment planning, ultimately improving global health outcomes.

ANUJA S
II YEAR/BME

NANOROBOTS IN TARGETED DRUG DELIVERY



Nanorobots represent a groundbreaking innovation in biomedical engineering, offering precise and efficient drug delivery at the cellular level. These microscopic robots, often smaller than a human cell, are engineered to navigate through the bloodstream and deliver therapeutic agents directly to diseased tissues, such as cancerous tumors. By targeting only affected cells, nanorobots minimize side effects and reduce drug wastage compared to conventional treatment methods. Recent advancements in nanotechnology, biomaterials, and molecular engineering have enabled the design of biocompatible nanorobots capable of responding to physiological signals like pH or temperature changes. Researchers are also exploring nanorobots for gene therapy, infection control, and vascular blockage removal, further expanding their medical potential. The integration of Artificial Intelligence (AI) and real-time imaging enhances their navigational precision and adaptability inside the human body. Although still in experimental stages, nanorobot-assisted drug delivery marks a significant step toward personalized, minimally invasive, and highly effective medical treatments, promising a future where targeted therapy could dramatically improve patient outcomes.

SARVIKA S
III YEAR/BME

Brain-Computer Interface (BCI)

The Brain-Computer Interface (BCI) is a cutting-edge technology that enables direct communication between the human brain and external devices. BCIs interpret neural signals and convert them into digital commands, allowing users to control prosthetics, computers, or wheelchairs using only their thoughts.

Recent breakthroughs in neuro-signal decoding, AI algorithms, and non-invasive sensors have significantly enhanced the accuracy and responsiveness of BCIs. They are now being used in neuro-rehabilitation, helping patients recover motor functions after strokes or spinal injuries. BCIs also show promise in assisting individuals with paralysis, enabling them to interact with their environment independently.



Beyond medicine, BCIs are expanding into virtual reality, gaming, and cognitive enhancement. The fusion of neuroscience and engineering in BCI technology represents a new era of human-machine symbiosis, where thought-driven interfaces could redefine how we interact with technology and restore lost sensory and motor abilities.

The fusion of neuroscience and engineering in BCI technology represents a new era of human-machine symbiosis, where thought-driven interfaces could redefine how we interact with technology and restore lost sensory and motor abilities.

DEVISRI A
II YEAR/BME

3D Bioprinting: Shaping the Future of Tissue Engineering

Bioprinting is a transformative technology that enables the layer-by-layer fabrication of living tissues and organs using a combination of living cells, biocompatible materials, and growth factors. It replicates the structural and functional complexity of biological tissues for applications in transplantation, drug discovery, and regenerative medicine. By precisely depositing bio-inks, researchers can create intricate tissue architectures such as skin, cartilage, bone, cardiac tissue, and vascular networks, closely mimicking native anatomy.

Recent breakthroughs in stem cell-derived bio-inks and hydrogel composites have significantly improved tissue strength, biocompatibility, and long-term cell survival. 4D bioprinting, an emerging extension, introduces stimuli-responsive materials that adapt their shape or function over time in response to environmental cues like pH, temperature, or magnetic fields, enabling the creation of dynamic, self-repairing tissues.

Integration with AI-driven modeling and medical imaging enhances print precision, while robot-assisted bioprinting allows automated, scalable tissue fabrication. Advances in microvascular printing and organ-on-a-chip platforms now support better nutrient exchange and physiological testing environments.

Bioprinting's personalized approach supports patient-specific implants and disease models, accelerating drug testing and reducing reliance on animal studies. Ongoing research explores multi-material bioprinting and in-situ tissue printing, where printers operate directly on or within the body during surgery.

Despite challenges in vascularization, maturation, and ethical standardization, bioprinting stands at the frontier of next-generation healthcare, promising to revolutionize treatment through true biological restoration and organ regeneration.



VARSHA R
IV YEAR/BME

CRISPR and Gene Editing in Therapeutic Medicine



CRISPR-Cas9 has revolutionized the field of genetic engineering by enabling precise, efficient modification of DNA sequences. This groundbreaking gene-editing tool allows scientists to cut, replace, or silence specific genes, paving the way for the correction of genetic disorders such as sickle-cell anemia, cystic fibrosis, and muscular dystrophy. Beyond healthcare, CRISPR technology has also been applied in developing disease-resistant crops and enhancing animal models for biomedical research. In medicine, CRISPR facilitates personalized gene therapies, tailored to each patient's genetic profile, thus improving treatment effectiveness and minimizing adverse reactions. Recent advancements, such as base editing and prime editing, enhance accuracy while reducing off-target mutations, making the process safer for clinical applications. CRISPR is also being used in cancer immunotherapy, where immune cells are engineered to better recognize and destroy tumor cells. Researchers are exploring in vivo gene editing, allowing therapeutic correction directly within the body.

S. Yamuna Sri
II Year/BME

Artificial Organs and Biohybrid Systems



Artificial organs are designed to replace, restore, or augment biological functions using synthetic, electronic, or hybrid materials. From artificial hearts, kidneys, and pancreases to biohybrid lungs and liver assist devices, these innovations address the global organ shortage and reduce dependence on transplants. Modern artificial organs combine principles of mechanical engineering, biotechnology, and materials science to achieve high efficiency, biocompatibility, and durability. Biohybrid devices, which integrate living cells with synthetic scaffolds, represent a major step toward regenerative functionality. These systems not only perform mechanical tasks but also interact with the body's biological environment, promoting tissue integration and healing. Embedded biosensors within artificial organs provide real-time physiological feedback, enabling self-regulation and adaptive control of vital parameters such as blood flow, oxygen levels, and glucose concentration.

R. Sivadharshini
IV Year/BME

Digital Twins in Personalized Medicine

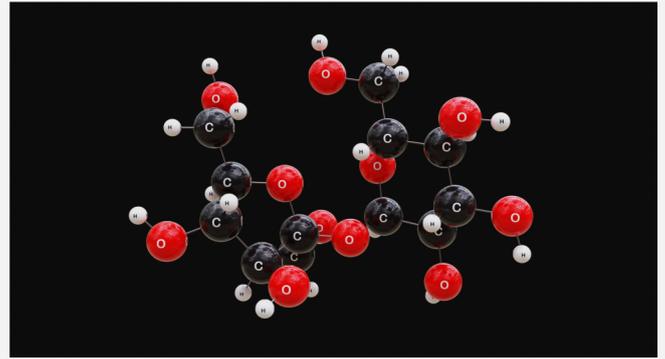
Digital Twin technology creates dynamic, data-driven virtual replicas of human organs, physiological systems, or even entire patients to simulate disease progression, treatment responses, and recovery outcomes. By integrating real-time patient data from sensors, medical imaging, and electronic health records, these virtual models allow clinicians to test therapies, predict complications, and personalize treatment plans without invasive procedures.

In personalized medicine, digital twins optimize drug dosages, surgical strategies, and rehabilitation protocols based on individual physiology. They enable continuous monitoring of chronic diseases such as diabetes, cardiovascular disorders, and respiratory conditions, providing predictive alerts before clinical deterioration occurs. Integration with Artificial Intelligence (AI) and the Internet of Things (IoT) enhances accuracy, adaptability, and real-time decision support.

Recent advancements also explore organ-specific twins, such as cardiac or neurological digital twins, which replicate biomechanical and electrophysiological functions with remarkable precision. These models are being used for surgical simulation, medical device testing, and virtual clinical trials, reducing costs and ethical concerns associated with human experimentation.

Shambavi T
IV Year/BME

Quantum Biosensing for Medical Diagnostics

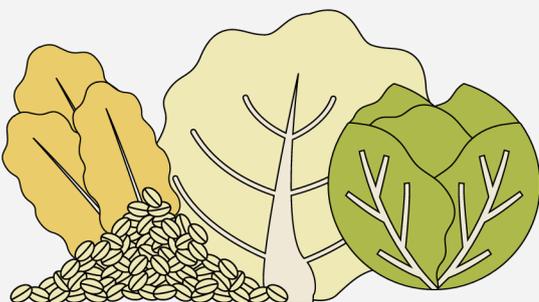


Quantum biosensors leverage the principles of quantum mechanics — including superposition, spin states, and entanglement — to detect minute biological changes with unmatched sensitivity and accuracy. Unlike traditional sensors, they can measure single-molecule interactions, detect biomarkers at femtomolar concentrations, and monitor real-time biochemical reactions, enabling ultra-early disease detection.

Quantum magnetic sensors based on nitrogen-vacancy (NV) centers in diamonds are being developed for high-resolution brain and cardiac monitoring, capable of mapping neural activity and magnetic fields generated by the heart with nanometer precision. Similarly, quantum dots are revolutionizing biomedical imaging by offering tunable fluorescence, improving visualization at the cellular and molecular levels.

Emerging applications include quantum-enhanced MRI, biosensing for cancer diagnostics, and real-time pathogen detection in pandemic control. Quantum sensors can also accelerate drug discovery, enabling precise molecular interaction.

Gohuladharshini S
III Year/BME



04

NON-TECHNICAL ARTICLES

Impact of Social Media on Youth



Social media plays a central role in the lives of today's youth, influencing how they communicate, learn, and express themselves. While platforms like Instagram and TikTok offer creative outlets and global connectivity, they also pose challenges to mental health and personal development.

Excessive exposure to idealized images and lifestyles can lead to low self-esteem, anxiety, and depression. The pressure to gain likes and followers often fosters a culture of comparison and validation-seeking behavior. Additionally, constant notifications and algorithm-driven content loops can reduce attention span and academic focus.

Despite these concerns, social media also provides opportunities for learning, activism, and community building. Youth can access educational resources, engage in social causes, and connect with diverse perspectives. However, the benefits are best realized when usage is balanced and guided by awareness.

To mitigate negative effects, it is essential for parents, educators, and institutions to promote digital literacy and responsible online behavior.

Kanishka B R
II Year/BME

The Psychology of Consumer Behavior

Consumer behavior is deeply influenced by psychological factors that shape how individuals perceive, evaluate, and purchase products. Emotions, beliefs, motivations, and social influences all play a critical role in decision-making processes.

One key concept is perception—how consumers interpret marketing messages, product packaging, and brand identity. This perception is often shaped by prior experiences, cultural background, and personal values. Motivation also drives behavior, whether it's the need for safety, status, convenience, or self-expression.

Cognitive biases such as brand loyalty, anchoring, and the decoy effect can lead consumers to make choices that deviate from rational analysis. For example, limited-time offers or scarcity cues often trigger impulsive buying due to fear of missing out (FOMO).

Social factors like peer influence, celebrity endorsements, and online reviews further impact consumer preferences. In the digital age, emotional branding and personalized marketing have become powerful tools for shaping consumer identity and loyalty.

Understanding these psychological drivers allows businesses to design more effective marketing strategies and build stronger customer relationships. For consumers, awareness of these influences promotes more mindful and informed purchasing decisions.

Shobana B
III Year/BME

Marketing Strategy



Marketing strategy refers to a company's plan to reach potential customers and convert them into loyal buyers. It involves identifying target audiences, understanding their needs, and positioning products or services effectively. A successful strategy blends elements of product, price, place, and promotion—the four Ps of marketing.

Modern marketing strategies leverage digital platforms, data analytics, and consumer psychology to personalize outreach and improve engagement. Techniques such as content marketing, influencer partnerships, and search engine optimization (SEO) help brands stay competitive in a saturated market.

Strategic planning also includes market segmentation, competitor analysis, and brand differentiation. Companies must adapt to changing trends, customer feedback, and technological advancements to remain relevant.

Ultimately, a well-crafted marketing strategy drives business growth, builds brand loyalty, and enhances customer satisfaction.

Vikram C
IV Year/BME

Greenhouse Effect and Climate Change



The greenhouse effect is a natural phenomenon where gases like carbon dioxide (CO₂), methane (CH₄), and water vapor trap solar heat in Earth's atmosphere, maintaining a stable climate suitable for life. However, anthropogenic activities—such as fossil fuel combustion, industrial emissions, deforestation, and intensive agriculture—have drastically increased greenhouse gas concentrations, intensifying this effect and accelerating global warming.

Climate change manifests through rising global temperatures, melting polar ice caps, erratic rainfall patterns, desertification, ocean acidification, and increased frequency of extreme weather events like hurricanes, floods, and droughts. These changes disrupt ecosystems, threaten biodiversity, reduce agricultural productivity, and compromise access to clean water and food security. Vulnerable populations, especially in coastal and low-income regions, face heightened risks of displacement and health crises.

Mitigation strategies include transitioning to low-carbon technologies, enhancing energy efficiency, reforestation, and adopting circular economy principles.

Mukesh J
III Year/BME

Teamwork and Communication Skills



In today's dynamic world, success is rarely a solo journey. Every great discovery, every innovation, every achievement stands on the foundation of teamwork and strong communication.

Teamwork is the art of blending different minds into one vision. When people from varied backgrounds share their skills, strengths, and ideas, the result is greater than what any single person could achieve. True teamwork thrives on trust, empathy, and the willingness to listen — not just to respond, but to understand.

Communication, on the other hand, is the bridge that connects minds. Clear communication transforms confusion into clarity, and ideas into action. Whether in a research lab, a hospital, or a classroom, effective communication ensures that thoughts are shared, feedback is valued, and goals are achieved together.

In the field of biomedical engineering, teamwork between engineers, doctors, and researchers is what brings life-changing technologies into existence. A brilliant idea may start with one person, but it takes a team to make it real and communication to make it impactful.

Ragul R
II Year/BME

Healing Through Nature



In the rush of our modern world, we often forget that nature has always been our quietest and most faithful healer. A simple walk under the trees, the sound of rain, or the touch of morning sunlight can calm the mind in ways no words can describe.

Nature does not hurry, yet everything is accomplished — this is its greatest lesson. The rhythm of waves, the whisper of the wind, the scent of wet soil — all remind us that peace is not found in noise but in stillness. When we step away from screens and reconnect with the earth, we begin to heal from within.

Spending even a few moments outdoors can reduce stress, lift our mood, and remind us of life's simple beauty. The more we listen to nature, the more we hear ourselves.

So the next time you feel overwhelmed, step outside. Breathe deeply. Let the green world remind you — healing doesn't always come from medicine; sometimes, it comes from a moment of silence beneath the sky.

Farshana Begum M
III Year/BME



Gratitude: A Daily Habit

In the race to achieve more, we often forget to appreciate what we already have. Gratitude is that quiet pause in life that reminds us of how blessed we are. It's not just a word of thanks, it's a mindset, a way of seeing the world through the lens of contentment and appreciation.

When we start each morning with gratitude, life begins to look brighter. The warmth of sunshine, the smile of a friend, a parent's care, or even a small success, all become moments to cherish. Gratitude helps us notice what is right in our lives, even when things seem to go wrong.

Scientific studies show that grateful people experience better sleep, stronger relationships, and a deeper sense of happiness. It shifts our focus from what we lack to what we possess, filling our days with peace and positivity.

Practicing gratitude doesn't require grand gestures. It begins with small steps, keeping a gratitude journal, saying "thank you" sincerely, or simply acknowledging the beauty of an ordinary day. Even on difficult days, gratitude helps us find hope and resilience.

Being grateful doesn't erase challenges; it strengthens us to face them with grace. It reminds us that every person who crosses our path, every experience — good or bad; shapes who we are meant to become.

So, make gratitude your daily ritual. Pause, reflect, and appreciate. Because when we count our blessings, life itself becomes the greatest gift.

Ajith M
IV Year/BME



From Dream to Reality

Every great story begins with a dream — a spark of imagination that whispers, "What if?" Dreams are the seeds of progress, the invisible force that drives us to create, explore, and achieve. But a dream alone is only the beginning, it takes effort, focus, and resilience to turn that spark into a shining reality.

The path from dream to reality is rarely straight. It's filled with late nights, failures, and moments of doubt. Yet, every setback teaches us persistence; every obstacle strengthens our vision. Success doesn't come to those who wish — it comes to those who work.

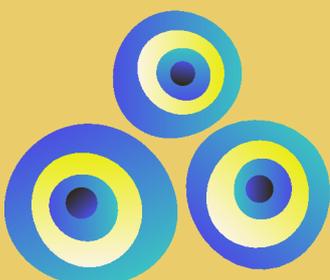
A dream becomes real when passion meets discipline. Passion gives us the why; discipline gives us the how. Together, they build the bridge between imagination and achievement.

Even the world's greatest inventions once began as simple dreams a thought in a notebook, a sketch on a paper, a "crazy idea" no one believed in. The difference between those who dream and those who succeed is action.

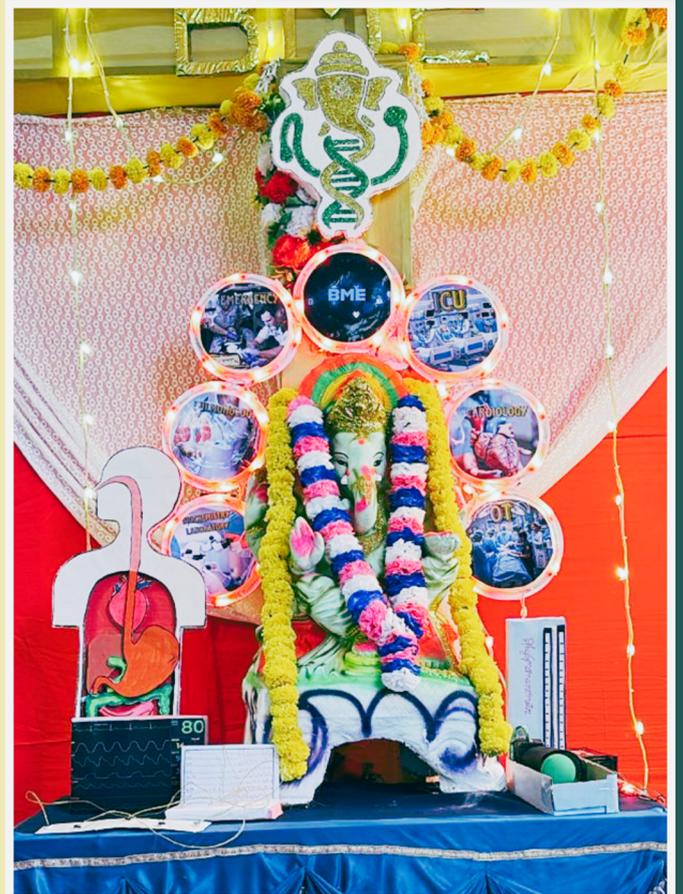
Believing in your dream is the first step. The second is doing something every single day to bring it closer. Dreams thrive on consistency, not perfection.

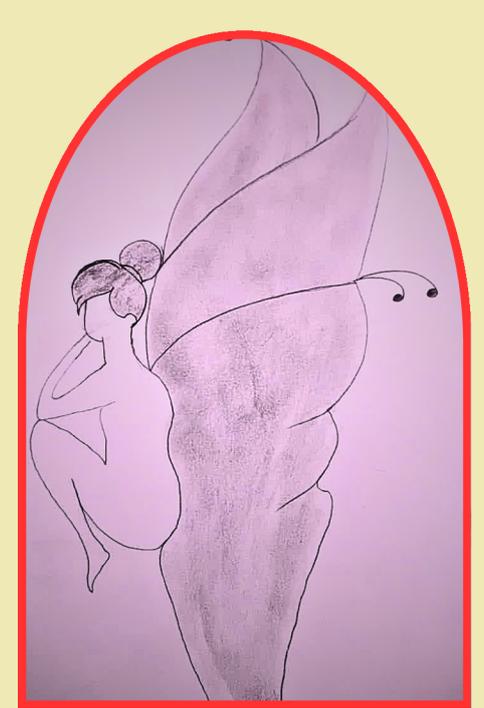
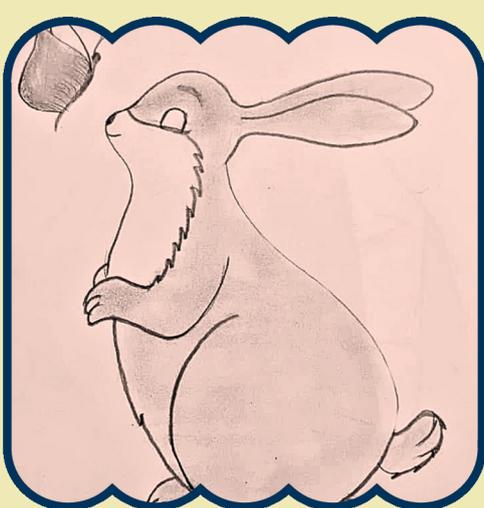
And when challenges arise (as they always do), remember: a delayed dream is not a dead dream. Sometimes, the universe tests our patience before granting our reward. Keep believing, keep moving, and keep building.

Muthupandi K
III Year/BME



05 DEPICTIONS





05 POEM

நம்பிக்கை தானே எல்லாம்!!

விடியலின் ஒளி துளியாய்,
நம் மனதில் புதுக் கனவுகளாய்
விழுகின்றன.

கடந்த தோல்வி, நிழலாய் மறைந்து,
இன்றைய முயற்சியின் நம்பிக்கையாய்
பிறக்கிறது.

சிறு சிந்தனை ஒரு தீப்பொறி –
அது அறிவின் தீயை ஏற்றும் சக்தி!
நெஞ்சில் நம்பிக்கை விதை போட்டால்,
அறிவின் மரம் உயர்ந்து வளர்கிறது.
புத்தகங்கள் நம் பாதையின் வரைபடம்,
ஆசிரியர்கள் நம் வழிகாட்டும் நட்சத்திரம்.
அறிவை தேடும் ஒவ்வொரு முயற்சியும்,
நம் எதிர்காலத்தின் ஓர் ஒளி விளக்கு.
பயணத்தில் சோர்வும் வரும்,
தடையும் வரும்,
ஆனால் முயற்சி நிற்கக் கூடாது.
விழுந்தாலும் எழுந்திடும் மனமே,
வெற்றியின் முதல் பாடம் கற்பிக்கும்!
அறிவின் காற்றில் நம் கனவுகள்
பறக்கட்டும்,
உழைப்பின் சிறகில் நம் வெற்றி
ஒலிக்கட்டும்.

நம் ஒவ்வொரு அடியும் சொல்லட்டும் –

“என்னால் முடியும்,
நான் முன்னேறுவேன்!”
மாணவரின் இதயத்தில்
மறைந்திருக்கும் ஓர் ஒளி,
ஒரு நாள் உலகையே பிரகாசமாக்கும்.
அந்த ஒளியை வெளிக்கொணர்ந்து
வாழ்வின் புதிய தொடக்கத்தை நாமே
எழுதுவோம்!

VASANTH P
III Year/BME

நம்பிக்கை

இருள் வந்தாலும்,
ஒளி தேடும் மனம்தான்
உன் நம்பிக்கை!
நட்சத்திரம்!!

உயிரிப் பொறியியல்

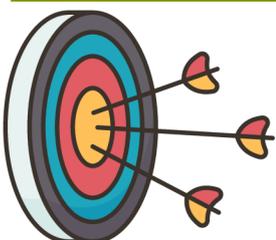
அணுவின் உள்ளே,
மனிதன் தேடும் ஒளி!
உயிர்!!

BIOMEDICAL ENGINEERING

A PERSON WHO SOLVES PROBLEMS NO ONE ELSE UNDERSTANDS; SOMEONE WHO DOES HIGH PRECISION GUESSING BAESD ON UNRELIABLE DATA; JUST LIKE A NORMAL ENGINEER, BUT A WAY COOLER. AN INNOVATOR AT THE INTERSECTION OF BIOLOGY AND TECHNOLOGY, IMPROVING HEALTHCARE. ENGINEERING PIONEER, SHAPING THE FUTURE OF MEDICAL WITH PASSION AND PRECISION. A PROFESSIONAL WHO DESIGNS, DEVELOP AND PRODUCES MEDICAL EQUIPMENT AND DEVICES TO IMPROVE MEDICAL TREATMENT AND QUALITY OF LIFE. SCIENTISTS DREAM ABOUT DOING GREAT THINGS. ENGINEERS DO THEM. THE HUMAN FOOT IS A MASTERPIECE OF ENGINEERING AND A WORK OF ART.

KIRUTHIKA A
IV Year/BME

07 SPORTS ACTIVITIES



THE EDITORIAL BOARD

Dear Readers,

Warm greetings from the Editorial Board of BioActive!

We're delighted to present the January 2026 edition, continuing our mission to celebrate the innovation, creativity and spirit of the biomedical engineering community. This issue captures the essence of our department – where science blends with imagination and technology connects with humanity.

Inside, you'll find technical insights, creative expressions and project highlights that showcase how our students and faculty push boundaries in healthcare technology.

Alongside these, we proudly feature artistic, athletic and co-curricular achievements, reflecting the holistic growth that defines our community.

We sincerely thank all contributors for their enthusiasm and creativity. May this edition inspire you to innovate fearlessly, think deeply and grow beyond the lab.

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