VISION

To become a centre of excellence in biomedical education and research by nurturing skilled professionals equipped to deliver affordable, innovative, and sustainable healthcare solutions, contributing to a prosperous Madhya Pradesh and a self-reliant Bharat.

जैव-चिकित्सा शिक्षा एवं अनुसंधान के क्षेत्र में उत्कृष्टता स्थापित करते हुए, ऐसे कुशल मानव संसाधन का विकास करना जो नवाचार, स्थिरता एवं किफ़ायत के साथ स्वास्थय सेवा समाधानों के माध्यम से सामाजिक कल्याण, समृद्ध मध्यप्रदेश एवं आत्मनिर्भर भारत की परिकल्पना को साकार करें।

MISSION

To integrate engineering, science, and healthcare for indigenous development through design in India, guided by the spirit of 'Nation First' and eternal human values, and to advance research and community services that deliver affordable, accessible, and sustainable healthcare solutions for rural and mass populations.

इंजीनियरिंग,विज्ञान और स्वास्थ्य सेवा के समन्वय के माध्यम से डिज़ाइन इन इंडिया की भावना के अनुरूप स्वदेशी विकास को बढ़ावा देना, ' नेशन फर्स्ट ' और शाशवत मानवीय मूल्यों से प्रेरित होकर अनुसंधान एवं सामुदायिक सेवाओं को सुदृढ़ करना, ताकि ग्रामीण एवं जनसामान्य के लए किफायती, सुलभ और सतत स्वास्थय सेवा समाधान उपलब्ध कराए जा सकें।

Editors: Mr. Sunny Ganavdiya (Asst. Prof. BMED), Mrs. Dhanshri Kulkarni (Asst. Prof. BMED)

From the Department Desk

Message from the Head of the Department

 Biomedical Engineering is driven by purpose—transforming knowledge into solutions that improve lives. Our department nurtures innovation, curiosity, and compassion, empowering students and faculty to address real-world healthcare challenges through engineering excellence.This newsletter captures the spirit of learning, creativity, and progress that defines our department. I wish every contributor continued success in shaping a healthier and better future.

Departmental News & Updates

1.Welcome to New Beginnings: First-Year Induction Programme - 2025

Mrs. VIBHA BHATNAGAR addressing students

Dr. P. P.BANSOD discussing opportunities in the field of Biomedical engineering

The Induction Program 2025 (11 to 14 August 2025) was conducted to familiarize first-year students with the institute's academic framework, facilities, and support systems.

Day 1: Institutional orientation sessions were held by the Dean and various support cells. The departmental orientation was conducted by **Mrs. Vibha Bhatnagar**, followed by a session on the future prospects of Biomedical Engineering by **Dr. P. P. Bansod.**

Day 2: Departmental overview, mentor–mentee interactions, and briefings on scholarships, academics, examinations, hostels, and student support services.

Day 3: Sessions on student well-being, innovation and research initiatives, cultural and technical activities, and alumni interaction.

Day 4: The program concluded with wellness activities, campus tour, and a Valedictory Function highlighted by the welcome address of the **Director, Prof. Neetesh Purohit,** followed by formal proceedings and the Chief Guest's address.
                    The induction program successfully ensured a smooth and meaningful transition of students into campus life.

2. A l u m n i T a l k – Mr. Shashvat Bargale

The department welcomed **Mr. Shashvat Bargale (BME Batch 2017–2021), a Clinical Research Scientist at Carle Health, Illinois, USA,** for an insightful alumni interaction session. He shared his academic and professional journey from **SGSITS to the United States**, offering valuable insights into pursuing higher studies and building a career abroad. Mr. Bargale also guided students on the pathways, skills, and preparation required to follow a similar trajectory, should they aspire to do so.

3. Expert T a l k – Dr. Mahendra Singh Thakur

The department hosted **Dr. Mahendra Singh Thakur, Associate Professor and Head, Department of ECE, PIEMR,** for an expert talk on **"Introduction to Molecular Communication for Biomedical Applications."** With 11 years of academic and one year of industry experience, and an academic background of B.Tech (SGSITS Indore), M.Tech (IIT Bombay), and Ph.D. (IIT Indore), he shared valuable insights on emerging research areas and career development in interdisciplinary biomedical engineering.

Unspoken dedication, unseen gestures may go in vain in people's eyes
But remember my friend ,there is a higher authority above the skies
Some wounds can't be healed, some scars cannot be seen
But these are the possession of warriors who are meant to survive

Why we think prevention is better than cure ?
As destiny can't be judged without walking on the road
Loads of obstacles you have faced , more are on the way
To make your journey more memorable as a whole

I know your mind is feeling vague and heart is feeling empty
Filled with mixed emotions but trying to avoid the agony
Accept the present and let it design a new fate for you
It's better for somethings to be a part of only history

Riya chaturvedi, IV year

Faculty Achievements -Research & Academic Excellence

Proud Moment for Biomedical Engineering Department!

Delighted to share that our CSR project under TEQIP, led by PI **Dr. B. R. Rawa**l, has achieved a remarkable milestone. **Mr. Yogesh Sariya, Faculty of Biomedical Engineering**, has been granted a patent for this innovative work.

Heartiest congratulations to the entire team — **Mr. Vinay Manurkar and Dr. Vaibhav Kotu** for their valuable contributions.

Research Insights

Mr. Sunny Ganavdiya, Assistant Professor of Biomedical department, **Research article** has been accepted for publication in **IEEE DATA DESCRIPTION JOURNAL**.

Title of paper:- Descriptor: Benchmark Dataset for Animated Multimedia Quality Assessment (BeDAMQA)

Description:- Multimedia quality assessment: Subjective and objective Quality Assessment

Rising Biomedical Engineers - Student section

An interdisciplinary team comprising **Rani Sharma and Ritu Verma (Biomedical Engineering)** and **Ajeet Sahni and Kaushik Dhoble (Electronics & Instrumentation Engineering)** developed a **Continuous Blood Glucose Monitoring (CGM) system** during an internship with **NICT Pvt. Ltd. in collaboration with SGSITS**.

Guides: Mr. Vinay Manurkar and Dr. P. P. Bansod

Abhijeet Solanki, a final year student, received the Dasgupta Award in best student category.

Expression of Culture: Students in Action

AAROHAN-2025
Inaugural Techfest Event – Biomedical Engineering Department
Biomedical Lab Lockdown

The Biomedical Engineering Department of SGSITS, Indore organized its inaugural TechFest event as a part of AAROHAN 2025 — ***Biomedical Lab Lockdown*** — a high-energy technical challenge designed to test real-time problem-solving skills, teamwork, and biomedical engineering aptitude. Participants faced a simulated lab emergency where biomedical devices malfunctioned and teams had to diagnose faults, solve technical puzzles, and race against time to unlock solutions.

The event featured three action-packed rounds:

Round 1: The Lockdown (Screening) – Heart jigsaw, BMI evaluation, Heartbeat Hustle, and Lung Power spirometer challenge.

Round 2: Device Down Arena – ECG troubleshooting, circuit diagnostics, RGB LED puzzle, signal transformation tasks

Round 3: The Final Unlock – Debugging biomedical code to break free from the digital lock.

The event witnessed enthusiastic participation, energetic competition, and remarkable innovation. Students showcased outstanding technical skills and collaborative spirit, making the first-ever Biomedical Tech-Fest a grand success.

Beyond the Classroom: Sports Edition

The SGSITS Women's Badminton Team emerged as champions at the RGPV Nodal Inter-Collegiate Badminton Tournament held in Indore. **Shelly Juneja (Ujjain),** B.Tech 2nd Year, Biomedical Engineering, was awarded Best Women Player of the Tournament. She has also been selected to represent SGSITS at the RGPV State-Level Badminton Tournament, to be held in Satna on 23rd December 2025.

At the RGPV State-Level Badminton Tournament held at VITS, Satna, the Indore Women's Team, led by Shelly Juneja, finished as State Runners-Up.
Shelly Juneja was also selected as the 2nd seed player for RGPV Bhopal at the West Zone Tournament

At the West Zone Inter-University Women's Badminton Tournament held at Symbiosis International University, Pune, the RGPV Women's Team reached the Pre-Quarterfinals.

Akanksha Thakre RGPV Nodal Volleyball Tournament Winner

Akanksha Thakre was awarded Best DefenderInterbranch volleyball tournament 2025

Akansha Thakre-RGPV State player volleyball

Beyond the Blackboard

Poem:-The flower which died before blooming

"Hurray!", they said,
as they saw the plant budding.
Soon, the bud started growing,
Unaware of the plant's conditions.

The plant had its own burdens
no moist soil, no water to feed,
but tried its best, and thought it was enough.
But the little bud needed more than shelter to grow.

It needed some warmth,
fighting to survive alongside the plant,
it withered slowly, unheard.
"I've done so much for you, given you everything to
live," said the plant.

"But you still seem so lifeless, so ungrateful."
"I'm tired of this life," whispered the bud.
"I didn't choose to be born.
Your shelter is my necessity,
but must I lack the sweet heat?"
I must be a burden, thought the bud.

Still, it tried its best to bloom,
to make the plant proud.
And just as it was about to blossom,
a cold wind blew it away.
It failed at life,
yet the bud was happy that it died.

By Divyanshi Sharma
3rd year BME

Poem: "Unwritten Algorithms"

We are wired with questions,
stitched together by dreams,
walking through corridors where
the future quietly gleams.

Between textbooks and deadlines,
we learn something more—
that curiosity is the password
to every unopened door.

Some days flow smoothly,
like code that runs just right;
other days get tangled,
in loops that last all night.

But still we rise,
debugging doubts with hope—
for engineers aren't made in comfort,
we are shaped by how we cope.

And in this journey forward,
with each challenge we climb,
we are writing unwritten algorithms
that will outlive our time.

Lakshita Jain
3rd Year

"Concentrate all your thoughts upon the work in hand. The sun's rays do not burn until brought to a focus." —Alexander
Graham Bell

Emerging Trends in Biomedical Engineering

- The Kidney Project at the University of California, San Francisco (UCSF), led by Shuvo Roy, is a groundbreaking biomedical engineering initiative focused on developing a fully implantable artificial kidney for patients with end-stage renal disease By combining advanced silicon nanopore membrane technology with living kidney cells in a bioartificial system, the project aims to replicate natural kidney functions such as blood filtration, fluid regulation, and metabolic balance. This innovative, bio-hybrid approach has the potential to eliminate long-term   dialysis dependence, reduce organ transplant shortages, and significantly improve patient quality of life.
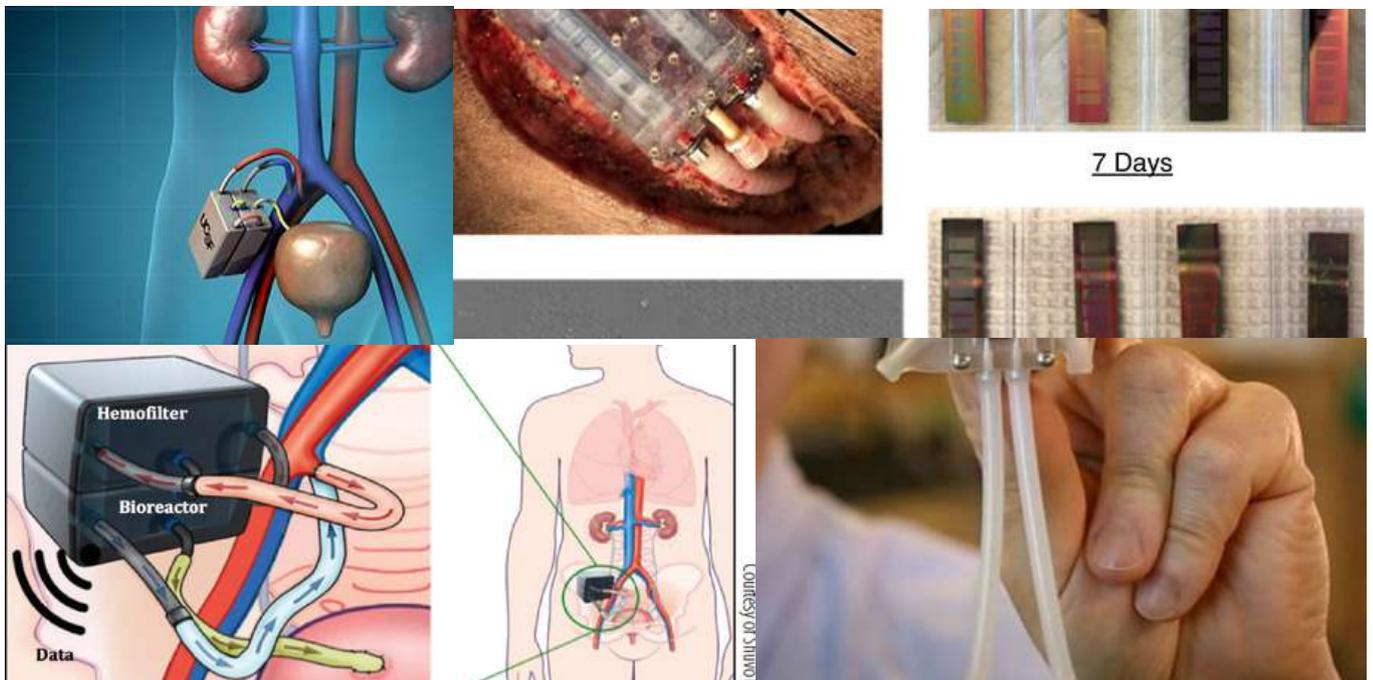
- **AI-Enhanced Wearable Health Monitoring:-**Biomedical engineers are integrating advanced AI and wearable sensors to continuously track vital signs like ECG, glucose, and oxygen levels in real time. These systems enable personalized health insights and early detection of medical anomalies outside clinical settings.

- **Student Innovation: Portable Emergency:-** A team at Texas A&M developed a backpack-sized mobile operating room (WildOR Kit) to provide critical surgical care in disaster or low-resource settings — a major example of practical biomedical engineering solving real-world problems.

- **Cancer Research & Early Detection Tools:-**Researchers at OHSU have developed advanced organoid and organs-on-a-chip models to better study cancer at its earliest stages, improving our understanding of how cancer begins and potentially leading to earlier detection and treatment approaches.