

NEWSLETTER

JULY - DECEMBER 2023

BIOMEDICAL ENGINEERING

DEPARTMENT



Published by Biomedical Engineering Department



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The Institute



Established in 2004, Government Engineering College, Gandhinagar (GEC-Gn) takes pride in its highly motivated students. Our students are life-long assets that help this institute to continuously evolve and work towards its Vision. Approved by AICTE. The College is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar. GEC Gn is affiliated to Gujarat Technological University. GEC-Gn offers its students a wide range of courses to choose from. This helps them to become multi-skilled personalities who can handle the challenges that industry and society will pose before them as future engineers. Committed, to deliver excellence in everything that it does, our institute works towards reducing the gap between industry and education.

GEC-Gn endeavors to educate its students in a manner that offers them an opportunity not only to excel in academics but to be completely aware of their future industrial needs for professional expertise through innovative and flexible curriculum. This trains the students of this campus to reach their highest potential.

Biomedical Department



The Department of Biomedical Engineering has been functional in the college since 2004. It offers Bachelor of Engineering as well as Master of Engineering degrees in Biomedical field at Undergraduate and Graduate levels. The department has excellent infrastructure with laboratories stocked with equipments for Therapeutic Instrumentation, Diagnostic Instrumentation, Biomedical Imaging, Biomedical Signal Processing, Life Science, Biomedical EMC, Digital Electronics and Biomedical Embedded. Students learn their skills in medical imaging; computational biology, bioinformatics, and imaging sciences; sensors, microsystems, and instrumentation; biomaterials, etc. Students are provided with a practical perspective in order to provide solutions to the most pressing medical challenges. Students are challenged to analyze and solve problems from both engineering and biological perspectives. Upon completion of the programme, students are well-prepared to enter the top graduate, medical and professional schools or begin a rewarding career in industry.

Vision & Mission

Vision

 To play a pivotal role in promoting human health through the best of current and future technologies from the field of engineering and medical science to bridge the gap between medicine and engineering.

Mission

- To serve the fundamental principles of engineering to human health care and well-being for medical industries, health care providers, governmental agencies, and academic entities.
- To create a linkage between content generation, research in critical areas, and imparting education for integrating our knowledge with the advancements in Hospitals and Industries.
- To obtain and maintain the competitive edge in hospitals and industries, for identification and nurturing of talent and learning in academic entities.

PEOs & PSOs

Program Educational Outcomes(PEOs)

- To have mathematics, science, and engineering fundamentals expertise at the interface of engineering and the life sciences, enabling them to take leadership roles in the field of biomedical engineering.
- To have ability to use their problem solving skills and multidisciplinary perspectives to understand and advance scientific discoveries and technological innovations across professional and disciplinary boundaries with the highest professional and ethical standards.
- To possess technical and practical skills to identify, formulate, and solve openended problems with medical relevance, including the design of devices, systems, and processes to improve human health.
- To develop successful careers related to Biomedical Engineering like biomedical electronics, medical instrumentation, medical imaging, biomedical signal processing, rehabilitation engineering, and neuroengineering or another area of the student's choosing, through employment in industry or government, or through pursuit of graduate or professional degrees; and Successfully practice biomedical engineering to serve state and regional industries, hospitals, government agencies, or national and international industries.
- Work professionally in one or more of the following areas: biomedical electronics, medical instrumentation, biomedical signal processing, rehabilitation engineering, and neuroengineering.
- To enhance career skills through life-long learning.

Program Specific Outcomes (PSOs)

- Operate and maintain Biomedical Instruments.
- Design and Develop Biomedical Instruments.
- Acquire and develop the ability for life-long learning needed for a successful professional career such as professional and ethical attitude, effective communication skills and teamwork skills.

Faculty, BM Department

Dr. Indravadan B. Dave Head Of Department



Prof. Piyush V Patel Assistant Professor



ERO



Dr. Mitul B Patel Assistant Professor



Assistant Professor



Dr. Chintan P Shah Assistant Professor

Prof. Maulindu P Patel Assistant Professor



Prof. Hetal K Mehta

Assistant Professor

Prof. Rutu Nayak Assistant Professor





Prof. Manan M. Nanavati Assistant Professor

Prof. Priyank K Shah Assistant Professor



Prof. Navdeepsinh V Limbad Assistant Professor

Prof. Mitul Khandhedia Assistant Professor



Departmental Activities

 Department has organized a Hospital Visit for 5th Semester students to the Civil Hospital, Gandhinagar on 18 October, 2023 in which total 44 participants(42 students and 2 faculties) visited it.



Tree Plantation



• Faculties along with students has visited MedTech which was organized on 17-19th August 2023 at helipad.



 Department has organized workshop on "Introduction of Medical Instruments "on 10 August, 2023. This event was coordinated by Prof. Maulindu P. Patel and Speaker of this event was Prof. Rutu P. Nayak in which a total of 50 participants (43 students + 7 faculty) attended it.



 Department has organized workshops on 16 September, 2023. This event was coordinated by Prof. Ghanshyam D. Parmar and Prof. Maulindu P.
Patel and speaker of the event was Prof. Maulind P. Patel



 Biomedical Engineering Department has conducted a one week STTP on "Biomedical Advancements in Engineering" in collaboration with NITTTR, Bhopal. Prof. C. P. Shah has cocoordinated STTP during 25/09/2023 to 29/09/2023 at NITTTR, Ext. Ahmedabad. Prof. M. B.6-Patel, Prof. V. P. Dave and Prof. C. P. Shah has conducted expert sessions along with industry experts. The STTP has covered



 Department has organized an Alumni Meet/Expert Talk 2023 on 21st October, 2023. Alumni Ms. Mansi Singh, and Ms. Thakur Bulbulbharti on topic "Talk on the Design of Interventional Devices" in which a total of 58 participants (43 Students + 15 Alumni) attended it, which was further followed by Cultural Event held by Alumni of all Departments.



 Faculties along with students has visited Semicon India on 28th July 2023 at Mahatma Mandir.



Participation in STTP

- Prof. Dr. Vijay P. Dave delivered an expert lecture on "Medical Signal Analysis" in a STTP organized by GEC Gandhinagar and NITTTR Extension Centre, RCTI Campus, Sola, Ahmedabad on 27/09/2023.
- Prof. Piyush V. Patel successfully completed a 12-week Faculty Development Program on "Medical Image Analysis" with Silver Medal (78%) on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Piyush V. Patel successfully completed a 12-week Faculty Development Program on "Deep Learning" with silver medal (75%) on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Piyush V. Patel attended "SemiconIndia-2023" at Mahatma Mandir, Gandhinagar on 29/07/23
- Prof. Navdeepsinh V. Limbad successfully completed a 12 week training on "Soft Skills" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Navdeepsinh V. Limbad successfully completed a 1 week Faculty Development Program on "Biomedical Advancements In Engineering" at NITTTR Extension Centre, RCTI Campus, Ahmedabad during September 2023.
- Prof. Manan M. Nanavati successfully completed a 12 week training on "Soft Skills" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.

- Prof. Priyank K. Shah successfully completed a 12 week training on "Soft Skills" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Rutu P. Nayak successfully completed a 12 week training on "Soft Skills" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Mitul B. Patel successfully completed a 1 week training on "Entrepreneurship Development and vocational skills" at NITTTR Extension Centre, SVNIT Campus, Surat during July 2023.
- Prof. Rutu P. Nayak successfully completed a 1 week Faculty Development Program on "Biomedical Advancements In Engineering" at NITTTR Extension Centre, RCTI Campus, Ahmedabad during September 2023.
- Prof Hetal K. Mehta successfully completed a 8 week training on "Student Psychology" on MOOC platform during Jul-Oct 2023.
- Prof Hetal K. Mehta successfully completed a 8 week training on "Consumer Psychology" on MOOC platform during Jul-Sep 2023
- Prof. Ghanshyam D. Parmar successfully completed a 1 week Faculty Development Program on "Biomedical Advancements In Engineering" at NITTTR Extension Centre, RCTI Campus, Ahmedabad during September 2023.

- Prof. Chintan P. Shah successfully completed a 12-week training on "Deep Learning" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Mitul R. Khandhedia successfully completed a 12 week training on "Control Engineering" on Swayam (NPTEL) MOOC platform during Jul-Oct 2023.
- Prof. Chintan P. Shah has coordinated STTP on "Biomedical Advancement in Engineering during 25/09/2023 to 29/09/2023 at NITTTR, ext Ahmedabad.



Faculty's Achievement

 Prof. Chintan C. Shah mentored 4th Semester students who won cash prize of Rs. 1,00,000/- for competing in ROBOFEST Gujarat 3.0 sponsored by GUJCOST.



Prof. Chintan C. Shah



Prof.Priyank K Shah



Prof. Piyush V. Patel

- Prof.Piyush V. Patel and Priyank K Shah acted as mentor of a team in Smart India Hackathon – 2023 who have developed a solution for a problem statement "Hindi Misarticulation Therapy for Children".
- Prof. Piyush V. Patel mentored SSIP approved project on "A Novel approach for cell counter with cell classification" with approved funding of Rs. 50,000/- received in 2 phases, i.e., Phase-I – Rs. 15,000/- and Phase-II – Rs. 35,000/-
- Prof. Piyush V. Patel acted as coordinator of one-day seminar "Unlocking Entrepreneurial Mindset" on "World Entrepreneurship Day" on 21/08/2023 organized by SSIP Cell and E-Cell GEC-Gn.

Faculty's Publication



Prof. Manan M. Nanavati

- Prof. Manan M. Nanavati published article titled "Implementation and Comparative Study of Pyramid-based Image Fusion Techniques for Lumbar Spine Images" in Engineering Technology and Applied Science Research in August 2023. (Web of Science indexed & Scopus Indexed)
- Prof. Manan M. Nanavati published article titled "Performance comparison of different Wavelet based image fusion techniques for Lumbar Spine Images" in journal "Journal of Integrated Science and Technology" in August 2023. (Scopus Indexed).
- Prof. Manan M. Nanavati is associated as reviewer in Scopus indexed journal "Journal of Integrated Science and Technology"



Prof. Dr. Vijay P. Dave

 Prof. Dr. Vijay P. Dave published a research paper titled "Analysis of electric field strengths and focality for healthy and neurologically impaired subjects upon multiple tDCS stimulation protocols" in a journal "Research on Biomedical Engineering".

Student's Achievement

 Parth Jethva, Prem Tajpariya, Ganga Reji, and Stuti Parmar successfully participated in Smart India Hackathon Grand Finale 2023 at Techno India NJR Institute of Technology, Udaipur, Rajasthan and secured 2nd rank in SIH problem statement 1405(Develop therapy materials in Hindi for misarticulation children).





 Parth Jethva achieved first rank in the second year, demonstrating exceptional performance and dedication.



 Palak Prajapati, Sah Poojakumari, Pal Madhu, Dhruti Parekh have participated in ROBOFEST Gujarat 3.0 sponsored by GUJCOST and won the cash prize of Rs. 1,00,000/-. They have made a prosthetic hand under the guidance of Prof. Chintan P. Shah.



The Placement

• Job Placement

Sr. No.	Enrollment No.	Name	Company	Profile	Salary
1	210130103522	Aakansha Ashutosh Mishra	NSV TECHNOLOGIES PVT LTD	CLINICAL APPLICATIONS - TRAINEE	319710
2	210130103560	gajjar om hiteshbhai	NSV TECHNOLOGIES PVT LTD	CLINICAL APPLICATIONS - TRAINEE	319710

• Internship Placement:

Sr. No.	Enrollment No.	Name	Company	Profile	Salary
1	200130103028	Pinjara tousif	sQube Bimedicals	Intern	6000 pm
2	200130103014	HARSHIDDHI PATHAK	sQube Bimedicals	Intern	6000 pm
3	210130103572	Prajapati binal Sanjaybhai	sQube Bimedicals	Intern	6000 pm
4	200130103009	Akshaya Sudeep Kumar Warrier	Uteshiya Medicare Pvt Ltd	Business Associate	7000 pm
5	200130103007	Parthkumar Ashokbhai patel	Uteshiya Medicare Pvt Ltd	Business Associate	7000 pm
6	200130103016	Srishti Sinha	Uteshiya Medicare Pvt Ltd	Business Associate	7000 pm
7	210130103530	Apurva Devendrapratap Singh	Uteshiya Medicare Pvt Ltd	Business Associate	7000 pm
8	200130103003	PANCHAL JANAVI RAJUBHAI	Sahajanand Laser Technology	Intern	Nil

Student's Creativity





Stuti Parmar (210130103046)





Parth Jethva (210130103047)

Head of the Department



Dr. Indravadan B. Dave Head Of Department

Media-cell Convener



Prof. Piyush V. Patel Assistant Professor

Newsletter Coordinator

Prof. Navdeepsinh V Limbad

Assistant Professor



Newsletter Editors



Parth Jethva

EN No.210130103047

Commity Member

- 1. Shivam Garasia
- 2. Nikita Yawalkar
- 3. Madhu Pal
- 4. Krunal Shrimali

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