



Shri Vileparle Kelvani Mandal's



Dwarkadas J. Sanghvi College of Engineering

(Approved by AICTE and Affiliated to the University of Mumbai)

ACADEMIC BULLETIN
(2016 - 2017)



DEPARTMENT OF
BIOMEDICAL ENGINEERING

INDEX

- 1) About the department
- 2) Student Chapter : Pacemaker
- 3) Workshops and Seminars
- 4) Student & Staff activities and achievements
- 5) Highlights

ABOUT THE DEPARTMENT

Biomedical Engineering Programme is to provide high quality education for transforming the armatures into professionals, capable of applying knowledge of Basic Sciences and Fundamental Engineering, to take up the challenges in health care sector and instill in them the attitudes, values and vision for continued training and inculcate leadership abilities in their chosen careers

It aims to develop skills enabling Biomedical Engineers to serve the Hospitals, National and International Industries and Government Agencies. It builds a strong foundation and develops technical skills to work professionally in the areas such as Nanotechnology and Microsystems, Rehabilitation Engineering, Biomedical Signal and Image Processing, Medical Instrumentation, Medical Imaging, Nuclear Medicine Robotics in Medicine, Networking and Information systems in hospitals; to develop core competency in the field of Biomedical Engineering to gain technical expertise in biology and medicine for effective contribution in the development and improvement of health care solutions & to train and motivate students for pursuing higher education and research for developing cutting edge technologies.

Vision

To strive for academic excellence to develop responsible, competent professionals, equipped with advanced technical knowledge and high professional ethics to support healthcare industry.

Mission

1. To provide high quality education through innovative teaching learning processes.
2. To provide a forum for industry institute interaction, with a view to groom budding engineers as employable Biomedical Engineering professionals.
3. To inculcate research interest to develop sustainable diagnostic and life supporting tools/ systems that cater to the needs of medical profession.

4. To empower the students and instil in them a sense of belongingness and responsibility towards the society.

Program Outcomes

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.

7. **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.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **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.
11. **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.
12. **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.

STUDENT CHAPTER

PACEMAKER



Chairperson

ASHWINI POOJARY

Vice Chairperson

(Admin)

POOJA NAIR

Vice Chairperson

(Tech)

PRACHI SONDAGAR

Secretary

SHALINI SUBRAMANIAN

Co-Secretary

PRIYANJANA SINGH

Treasurer

SHREYA BHANDARKAR

Co-Treasurer

SUGANDHA PATEL

Marketing Head

NEHA JOSHI

Events Head

DEVANSHI MEHTA

Co-Events Head

SHREYA SHETTY

Creative Head

JINANG SHAH

Logistics Head

TARAK BAKHDA

Editorial Head

DISHA BERDE

Co-Editorial Head

ANJU NAMBIAR

Publicity Head

BHAVESH INDALKAR

Workshops and Seminars

ACTIVITIES DURING THE YEAR

- Seminar by
 - Dr. J. R. Torvi from Vidyalankar Institute of Technology, for Academic Audit for year 2015-16 on 5th August, 2016. 10 students attended it.
 - Department Advisory Board Meeting held a meet for Biomedical Staff and DAB Member for Industry on 29 April 2017. It was lead by Mr. Ashim Purohit, Mr. Pitolwala & Mr. Hadkar.
Venue : Conference room, 1st floor
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- Guest Lecture by
 - Dr. Venkateshwaran, Manager R&D, ARK Infosolutions Pvt. Ltd., Bangalore, on 3D Printing for TE & BE Students on 23rd July, 2016. 38 students attended it.
 - Mr. Bhalchandra Sahastrabuddhe on Medical Imaging for BE Students on 26th September, 2016, for the class of BE. The while batch attended the lecture.
 - Mr. Rahul Sali from BAYER India on CT and MRI Injectors for SE & TE students. It was held on 8th August, 2016 and 60 students attended it.
 - Dr Rashmi Patil & Dr Abhijeet Dhende on Anatomical Organs for SE students. They also had a demonstration. It was conducted across four days, viz., 20th, 22nd, 23rd, 24th September, 2016. 120 students attended it across the 4 days.
 - Mr. Tapan Zaveri on Investment and Personal Finance for SE, TE and BE Biomedical Engineering Students on 21 January 2017.
 - Mr. Ronak Dholkia on Cardiovascular Diseases and Medical Devices for BE Biomedical Engineering Students on 26 January 2017. 50 students
 - Mr. Keyur Shah and Mr. Aagam Shah on 31 January 2017 for BE Biomedical Students in the college.
 - Symposium on “Recent Trends in Biomedical Engineering” lead by Dr. Vikram Lele from Nuclear Medicine Dept. Jaslok Hospital & Mr. Prasad Hadkar from Phillips India on 31 March 2017 for SE, TE, BE Biomedical engineering students and Students from other College. It was organised by Student Chapter Pacemaker and Biomedical

Engineering Dept. at the Seminar Hall in the college. Over 150 students attended it from across Mumbai.

- Chimco Biomedicals Endoscopy Demonstration and Lecture for TE Biomedical Engineering students was held on 27th March 2016. Sr. Biomedical engineer Mr. Nikhil Narayanan of Chimco Biomedical lead the lecture. 27 students attended it. Venue : Biomedical Engineering Department Image Processing Lab, Biomedical Engineering Department.

- **Workshop**

- KiCad Workshop was held by Prof. Pawan Borra (Electronic Department), Prof. Prasad Joshi(HOD, Electronic Department) and Prof. Mangal Dandekar (Biomedical Department) for TE Students on 19th August, 2016. It was attended by the whole TE class.
- Ventilator Workshop conducted by Team from Maquet. Mumbai, Ms. Maitri Mr. Mehta & Arunin Sao for TE & BE students on 23rd September, 2016. 65 students attended it.
- Technical Paper Presentation workshop conducted by Prof. (Mrs.) Mrunal R. Rane and Prof. (Mrs.) Purva C. Badhe (both from Biomedical Department) for SE & TE Students. It was held on 19th September, 2016 and was attended by 56 students.
- Mr. Parth Bhatt and Mr. Omkar Desai held a Proteus workshop on 13 and 16 January for TE Biomedical Engineering Students. 23 students attended it in the college.
- Mr. Parth Bhatt and Ms. Prachi Sondagar organised an Arduino Workshop on 19th January, 2017 for TE Biomedical students.
- Staff of Radiology Department (To support Medical Imaging –I and Biomedical Instrumentation) of Nanavati Hospital organized our visit for TE Biomedical students on 17 March 2017. 27 students attended it at the Nanavati Hospital Radiology, EEG and EMG Department

- An Industrial Visit was organised for BE Biomedical Engineering Students at IIT Bombay Powai, Mumbai by IIT Bombay Nanofabrication Technology Facility on 18 March 2017.
 - Poster Competition During Symposium had participants from TE, BE Biomedical engineering students and Students from other Colleges on 31 March 2017.
 - Mastermind workshop for Prospective students on 22 April 2017 was held by Prof. Manali Godse at SVKM Hall
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- Prof. Manali Godse and Prof. Vivek Deodeshmukh attended a seminar on Future of Biomedical Engineering organized by CeMast at their Auditorium in Worli on 20th August, 2016.
 - Prof. Vivek Deodeshmukh and Prof. Vaibhavi Sonetha attended a training programme under Saksham Faculty Training Programme organized by Microsoft on 31st August, 2017 in the college premises.
 - Prof. Rashmi Ravikumar was present for Faculty development programme on Multisim, Ultisim and Ultraboard on 5th and 6th August, 2016. It was organized by LabView at Fr. CRC Engineering, Bandra.
 - The whole faculty did the Internal Audit of Biomedical Engineering Dept. on 5th October, 2016.
 - Prof. Vaibhavi Sonetha attended an INUP hands on training workshop on “Nanofabrication Technologies” held from 24th to 28th October, 2016 which was organized by IIT, Bombay.
 - Prof. (Mrs.) Shruti Dodani was present for a seminar on “STTP On Image Processing and Computer Vision”, organized by EXTC Department, College of Engineering Pune from 12 to 16 December 2016

- Prof. Vivek Deodeshmukh attended International Conference on Artificial Intelligence on Healthcare 27-28 Dec 2016 at MPSTME, Shripur Campus, Dhule.
- Prof. Rashmi Ravikumar attended CMOS, Mixed Signal and Radio Frequency VLSI Design Seminar on 30th January to 4th February, 2017 at IIT, Kharagpur.
- All Biomedical staff of DJSCOE and other Colleges of Mumbai University got together and discussed the scheme of Biomedical Engineering syllabus. This meeting was held at Mumbai University on 9 January 2017.
- Prof. Vaibhavi won Woman in Engineering Award conferred by ASM International on 14 October 2016.
- Prof. Manali Godse published a paper titled as ‘Study of Broadcasting Protocols in Vehicular Ad-Hoc Networks’ in International Journal of Engineering Trends and Technology (IJETI) Volume 36 Number 8, June 2016.
- Prof. Vivek Deoeshmukh published a paper with title ‘WSN based Smart light control System using android’ in International Journal of Enhanced Research in Science, Technology & Engineering ISSN: 2319-7463, Vol. 5 Issue 6, June-2016. Also, ‘VANET based Overtake mishap preventive advance road safety system’ in IEEE conference of “International conference on Inventive computation Technologies (ICICT 2016) organised by RVS Technical campus, Coimbatore, Tamil Nadu, India. The ICICT conference was held on 26-27 August 2016.
- Prof. Vaibhavi Sonetha, PhD Defence at IITB, wrote a paper on Simulation and evaluation of occlusion devices used for treating congenital heart defects using finite element and computational fluid dynamics package IITB, Powai on 13 April, 2017.

- Ms. Bhavya Mehta & Mr. Smeet Doshi participated in Festival : Genvision, Event: Brew a Plot (Technical Essay Writing) at IIT Bombay, Mumbai on 30 September 2016.
- Mr. Aniket Sathe of (ME Extc), student under the guidance of Prof. Vivek Deodeshmukh published a paper on 'Advance Vehicle Road Interaction for Road Safety using Smart phone Application' in Avishkar 2016 & stood 1st in PG Category. It was organized by Mumbai University on 21st & 22nd October, 2016 at Ramrao Adik Institute of Technology and A. C. Patil College of Engineering.
- Ms Shaileen Parikh & Ms. Saumya Vora, Under the guidance of Prof. Mrunal Rane (Incubation of Rs. 10 Lac for setting up star up company) ADHD Assistance system FIRST POSITION in Technical Paper Presentation (Cash Prize of Rs. 5000/- and Trophy) offered Sponsorship for Innovators International Conference to Be Held at Visakhapatnam in September 2017 Sushruta Innovation Award, Indian Medical Devices Industries (IMDI) Conferences, Ahmedabad JB Auditorium, Ahmadabad Management Association 17, 18 March 2017
- Mr. Smeet Doshi, 2. Ms Bhavya Mehta, Ms Poorvi Agarwal 4. Ms Ridhima Kumar Under the guidance of Prof. Vaibhavi Sonetha presented a paper on Drug Delivery System Using Polymer Micro needle . They secured FIRST POSITION in Technical Poster Presentation (Cash Prize of Rs. 3000/- and Trophy) & got offered Sponsorship for Innovators International Conference to Be Held at Visakhapatnam in September 2017. Incubation of Rs. 10,00,000/- was won at Sushruta Innovation Award, Indian Medical Devices Industries (IMDI) Conferences, Ahmedabad JB Auditorium, Ahmedabad Management Association held on 17, 18 March 2017.
- Ms Hinal Fifadra, Mr. Deval Parikh, Mr. Parth Bhatt, Under the guidance of Prof. Mrunal Rane (Incubation of Rs. 10 Lac for setting up star up company) Radial Pulse Analysis. They were THIRD RUNNERUP in Technical Paper Presentation and won Cash Prize of Rs. 1000/- and Trophy. They got offered Sponsorship for Innovators

International Conference to Be Held at Visakhapatnam in September 2017. Incubation of Rs. 10,00,000/- Sushruta Innovation Award, Indian Medical Devices Industries (IMDI) Conferences, at Ahmedabad JB Auditorium, Ahmedabad Management Association on 17, 18 March 2017.

- Mr. Rakesh Patel, Ms. Vishwa Shah, Ms. Harshita Shah, Under the guidance of Prof. Manali Godse made Anti-Tremor Glove and won Third in poster Presentation of Symposium and (Cash Prize of Rs. 500/- and Trophy) and Prizes worth 500/- were awarded at Recent Trends in Biomedical Engineering, D. J Sanghvi College of Engineering, on 31 March 2017.
- TCS Best Project Competition was won by Ms. Bhavya Mehta, Ms. Poorvi Agrawal, Mr. Smeet Doshi, Ms. Riddhima Kumar, Under the guidance of Prof. Vaibhavi Sonetha for Drug Delivery System using Polymer Microneedles. Medal and Cash Prize from TCS were received as they won TCS Best Project Competition at D. J Sanghvi College of Engineering on 6 March 2017.
- Mr. Smeet Doshi, Ms Bhavya Mehta, Ms Poorvi Agarwal, Ms Ridhima Kumar, Under the guidance of Prof. Vaibhavi Sonetha made Drug Delivery System using Polymer Microneedles and Participated in “Transform Maharashtra exhibition at NSCI Worli” where Chief Minister visited their Stall, Government of Maharashtra. It was held at NSCI, Worli on 1 May 2017.

HIGHLIGHTS OF 2015-2016

Student Council



Priyanjana Singh

-General Secretary 2017-2018

Priyanjana was elected as the general secretary of the college in the month of January 2017.

Various duties had to be carried out as the head of the student council which included management and co-ordination of various student chapters.



BEST STUDENT AWARD by TCS in the Year 2016-17.



Mr. Rakesh Patel won the Business Idea & Model Presentation Competition of SVKMs' NMIMS Flagship Entrepreneurship Event 'Chancellors' Challenge'. It was held at Bhaidas Auditorium, Vile Parle, Mumbai on 3rd April, 2017.

**Various Student Award Winners of Pan India Paper and Poster Presentation
Competition held in Ahmedabad by Sushruta in 2017**



NSS

(Contribution of Biomedical Engg. students in NSS activities.)



Ashwini Poojari

-Treasurer of NSS

Geetika Singh

-Editorial Head

Ashwini and Geetika were active members of the NSS team for the year 2015-2016. They were actively involved in various drives organized by the NSS committee. Few of the events conducted by the NSS committee were : Blood donation drive, Orphanage visits, Plantation drives, Beach cleaning drives and various other social drives.

TRINITY

(Contribution of Biomedical Engg. students in Trinity activities)



Avi Tripathi

-V.C. Admin

Bhavesh Indalkar

-V.C. Enclave

Sagar Birajdar

-Security H.O.D

Rohan Dalvi

-Security Head

Shreya Shetty

-Publicity Head

Hinal Shah

- PublicityHead

Foram Patel

-Publicity Head

Neha Joshi

-Tech Head

Kushagra Shah

-Tech Head

Trinity'16 and Trinity'17 witnessed heavy involvement from the biomedical department. From taking core positions to volunteering in various cultural, technical and sports activities, the biomedical department outshined.

Faculty Achievements



Our professor Dr.(Mrs.)Vaibhavi Sonetha received a doctorate degree from IIT
Bombay

Symposium 2017



Dr. Vikram Lele



Mr. Prasad Hadkar





Poster Competition



