



# Dhanalakshmi Srinivasan Engineering College

Perambalur – 621 212.

Department of Biomedical Engineering

News Letter 2016 – 2017

## 1. About the Department

The Department was established in the year 2005. To foster research and education that benefits human health on novel technologies, devices and therapies, the field has developed its own knowledge base and principles those are the foundation for the academic courses designed by the Department of Biomedical Engineering. Biomedical Engineering and e-health are interdisciplinary sectors that are growing prodigiously and have a significant social and economic impact.

The Biomedical area represents at most dynamic and leading research field and areas of innovation. It has a huge existing and emerging industrial base.

The Bio Medical Engineering, one of the most fascinating fields in medical has a great future as it combines the knowledge of sophisticated technology with the biology of mankind in order to solve the physiological problems of human beings.

### 1.1. Vision of the Biomedical Engineering

Emergence of advanced learning, research and training to strengthen technologies in biomedical engineering for human welfare and Nation needs.

### 1.2. Mission of the Biomedical Engineering

The mission of the Biomedical Engineering Department is to bridge engineering, science and medicine.

**M1.** To engage with the specific to generic community for knowledge dissemination and career development.

**M2.** To update, analyze and impel the knowledge in the multi-disciplinary fields to strengthen technologies in biomedical engineering.

**M3.** To encourage the students to overcome the gap between engineering and medicine for the welfare of society.

**M4.** To provide students expertise both in engineering and technical fields related to competitive medical technology in research and continuing education.

### 1.3. Program Educational Objectives (PEOs)

**PEO 1.** The graduates of the program will have ability to strengthen technologies by combining the design and problem solving skills for enhancing health care products.

**PEO 2.** Graduates of the program will function as productive team member and leader to bridge the gap between engineering and biology.

**PEO 3.** Graduates will be outstanding professionals by enhancing their advanced learning techniques in the field of biomedical engineering to face the global challenges.

**PEO 4.** Nurture responsible engineers with ethical values to serve the society and to learn and excel in higher education.

### 1.4. Program Specific Outcomes (PSOs)

**PSO 1. Bio-Analysis.** Apply Mathematical Analysis for human illness, to problems, thereby to interface engineering and life science.

**PSO 2. Data Interpretation and Problem Solving.** Make measurements on and interpret data from physiological systems and decipher the problems associated with the interaction between living and nonliving materials and systems.

## 2. Awards and Achievements

Student achievement measures the amount of academic content a student learns within a stipulated duration. Our department is constantly working to improve the knowledge and ability of students so as to face various technical challenges. The below mentioned are the awards and achievements bagged by our tireless students.

### 2.1. By Students

#### University Rank Holder (2012-2016):



4<sup>th</sup> Rank  
ABZER KELMINAL P M  
(810412121005)

#### The student contribution in inter college events:

- ✍ National level Technical Symposium- Mahendra Institute of Technology, Namakkal-12,
- ✍ National level Technical Symposium- Velalar College of Engineering & Technology, Erode-2,
- ✍ Development Organized Symposium- Anna University, Chennai-3
- ✍ National level Workshop : Dr.NGP Institute of Technology, Coimbatore
- ✍ National level Seminar- Sri Ramakrishna Engineering College, Coimbatore-11

#### The student contribution in National and International Journals are as follows:

- ✍ *Akhila Annageorge, Anaswara P A, Arathi K S, Haritha P H*, “Whole Body Vibration for Blood Flow and Muscle Oxygenation”, Asian Journal of Science and Applied Technology, Volume 5, Issue.1, 2016- ISSN: 2250-0978 / IJMRME, Volume 2, Issue II, 2016- ISSN: 2459-6152.
- ✍ *Anbuselvi N, Dhanalakshmi T, Kavitha B, Naveena M*, “A Sensor based Communication between Deaf, Dumb and Blind People”, International Journal of Applied Engineering Research, Volume 10, Issue 22, 2016, ISSN: 0893- 4432.
- ✍ *Krishnaveni K., Nandhini P. M.*, “Monitoring of Infant Movement using Ultrasound Sensor”, IJMRME, Volume 2, Issue II, 2016- ISSN: 2453-6112.
- ✍ *Aakila S, Antony Denisha J, Athula P, Jyothin Johns*, “Modified Detection of Lung Cancer by Breath Analysis”, Asian Journal of Science and Applied Technology, Volume 5, Issue.1, 2016- ISSN: 2250-0978.
- ✍ *Famithabanu N, Lalithambika E*, “Portable Diagnosing System for Detection and Assesment of Diabetic Ulcer using Glucose Monitoring”, Asian Journal of Science and Applied Technology, Volume 5, Issue.3, 2016- ISSN: 2222-0998.

**A Total of 69 students underwent Training programmes in various reputed concerns like Meenakshi Hospital, Madurai-8, Velammal Medical College & Hospital, Madurai-1, Medical Expo-2015, Chennai-34 and Elite Mission Hospital, Thrissur-3.**

## 2.2. Faculty Contributions

### National and International Publications

- ▣ **Dr G. Nallathambi, Ms B. Ashmitha,** “The Contradiction of Anti-Cancer Agents and Chronic Surfacing of Drug Confrontation”, International Research Journal In Global Engineering And Sciences (IRJGES), OCT 2016.
- ▣ **Dr T. R. Jerald Beno, Prof. K. Karthick Babu,** “Mechanized Machine Erudition Categorization of Alzheimer's Disease Based on Preferred Slices”, International Research Journal In Global Engineering And Sciences (IRJGES), OCT 2016.
- ▣ **Dr.D.Saraswathi,Prof.K.Karthick Babu,** “The Study on Comparison of Apparent Stress and Solitude Sensation between Breast Cancer Patients and Ordinary Persons”, International Journal On Recent Researches In Science, Engineering & Technology (IJRRSET), ISSN (Print) : 2347-6729 ISSN (Online) : 2348-3105,Volume 4, Issue 12, December 2016.
- ▣ **Prof.Hemalatha Karnan** ,” Classification And Detection Of Vf And Vt By Using Ecg Signals Threshold Value”, IJMRME, Volume 2, Issue 1,2016-ISSN: 2449-6119
- ▣ **Prof.G.Jagan** ,” Early Diagnosis and Classification of dry eye disease using mamdani model”, International Journal of Pure and Applied Mathematics, Volume 117 No. 16 2017, 393-398,ISSN: 1311-8080 (printed version); ISSN: 1314-3395 (on-line version)
- ▣ **Prof.C. Narayanan & Prof. S.Ramesh,**” Heart Pulse Measurement and Analysis from various Nodes of HUMAN BODY”, International Journal of Engineering Research and Modern Education, ISSN (Online): 2455 – 4200,Volume I, Issue I, 2016.

## 3. Details of the Programme conducted by the Department

### 3.1. Guest Lectures

- ✍ The Special lecture & invited talk on “Engineering on medicine and biology” was delivered by Dr K. Ganesan, Physiologist, DSMCH, Siruvachur, Perambalur on 21.3.17 to expertise the students in the same.
- ✍ A seminar on “Role of Biomedical Engineers in Health Care” was given by Mr.D.Murugan, Biomedical consultant on 01.02.17 to create awareness to the students.
- ✍ A Work shop “Intellectual Property Rights and Innovations” was organised on 11.02.17, invited chief guest Dr.Kandha Babu, Director,CIPR gave a motivated speech to the students about the advanced technologies in telemedicine.
- ✍ A seminar talk on “Pathogenesis – Human body Interaction” was delivered by Dr Amrithajothi Shanmugam, Physiologist. Vinayaga Mission Hi-tech Hospital, on 01.03.17 to improve the technical knowledge about microbes-human interactions.
- ✍ A guest lecture about “Hospital management & quality assurance of the equipments”was delivered by Mr.Venkatraman, Managing director on 01.03.17 to expertise the students in balancing the Hospital Ethics.
- ✍ A seminar talk about IOT medical Devices was organised on 21.03.17. Invited Chief Guest was Dr S. Mythili, Professor, PSNA College of Engineering and Technology, gave a speech about importance of IOT Devices in Telemedicine and Tele health Technology.
- ✍ The Special lecture “Recent trends in Biomedical Engineering” was delivered by Mr.A.Subramanian,Senior research fellow.NIMHANS,Bengaluru, on 15.07.16 to expertise the students in Biomedical engineering advancements.

### 3.2. Association Inauguration & One Day Seminar

The Department of Biomedical Engineering has organized its Association Inaugural and an One Day Seminar, on 15<sup>th</sup> July 2016. The Founder and Chairman of Dhanalakshmi Srinivasan Group of Institutions Shri A. Srinivasan delivered the presidential address and The Chief Guest of honor Mr.A.Subramaiyam inaugurated the event. The function was inaugurated by the honorable chief guests. Prof. J. Premalatha, the Principal in charge of Dhanalakshmi Srinivasan Engineering College expressed her views about the role of a biomedical engineer. Prof. C. Narayanan, Head of Biomedical Engineering Department delivered the welcome address.



Mr S. Sathyamoorthy, Assistant Professors of Biomedical Engineering department introduced the Chief Guest. The association inaugural session started at 10.00 a.m. by Prof. Dr J. Ranganathan and Prof. Dr T. Neelakantan gave an effective presentation on Role of biomedical engineer. A concise note of the seminar is as follows, role of a biomedical engineers in various discipline follows bio medical instrumentation, Bio mechanics, Clinical engineering, Neural engineering, Genetic engineering, Tissue engineering, Bio Materials and Cosmetic engineering. Explained about ancient technology of equipment and development of equipments in the hospital Various services in hospitals that are under the control of biomedical engineering like Radiology, Laboratory, Operation theatres, ICU, CCU, NICU, blood bank, central gas line maintenance and other miscellaneous services.

At the end of the seminar the chief guests had a discussion with students about the higher studies and research oriented job opportunities both in India and overseas countries. At the end of the seminar Mrs. Hemalatha Karnan, Assistant Professor has delivered the vote of thanks and the function was successfully ended at 4.40 p.m.

### 3.3. Biomed Camp-ADVAYA 2017



The department has conducted a Bio medical camp **ADVAYA-2017** on 01.03.2017. Mr **VENKATRAMAN**, Managing Partner-Technical, Bio Vision Medical Systems, Chennai and Dr S. **AMIRTHAJOTHI**, Vinayaga Mission Hi-Tech Hospital, Salem were the chief guest and inaugurated the camp.

The dignitary pointed out the important role played by biomedical engineers in medical field society and also gave an insight on advanced technologies used in Biomedical engineering. The Principal Dr T.Elango of our college emphasized the role of engineering in creating a new world of medical technologies.





Mrs. Hemalatha Karnan, Assistant professor, Dept. of Biomedical Engineering has coordinated the function. Around 300 students participated and had a full physical check up including Blood Group Testing, Hemoglobin Estimation, Height / Weight / BMI, Urine sugar testing, Blood pressure identification. Mr K. Karthick Babu, Assistant Professor, Dept. of Biomedical Engineering conveys the vote of thanks. The program ended up effectively by 4:00 p.m.

In this lecture Dr S. Mythili inspired the students by giving more information about “Engineering in Biology and Medicine”. Biomedical engineering has recently emerged as its own study, as compared to many other engineering fields.

Such an evolution is common as a new field transition from being an interdisciplinary specialization among already-established fields, to being considered a field in itself. Much of the work in biomedical engineering consists of research and development, spanning a broad array of subfields.

### 3.4. One day National Conference

The Department of Biomedical Engineering conducted One day National Conference BIOMAX 2017 “Engineering in Medicine and Biology” on 21.03.2017. The Founder and Chairman of Dhanalakshmi Srinivasan Group of Institutions Shri A. Srinivasan delivered the presidential address and The Chief Guest of honor Dr S. Mythili, PSNA College of Engineering and Technology, Dindigul. The function was inaugurated by the honorable chief guests. Prof. C. Narayanan, Head of Biomedical Engineering delivered the welcome address. Mrs Hemalatha Karnan, Assistant Professors of Biomedical Engineering department introduced the Chief Guests.

Prominent biomedical engineering applications include the development of biocompatible prostheses, various diagnostic and therapeutic medical devices ranging from clinical equipment to micro-implants, common imaging equipment such as MRIs and EKG/ECGs, regenerative tissue growth, pharmaceutical drugs and therapeutic biological. The purpose of Conference was fully achieved. Finally Prof C. Narayanan, Head of the Department/ Biomedical engineering gave the vote of thanks to all who have made the function a grand success.

### Placement

Every year students from the department is being placed in industrial areas. This year a set of 102 Biomedical Graduates from current batch have been placed in well reputed companies.

#### 4. Details of Sports events Participated by Students:

S. No	Student Name	Event	Year	Achievements	Place
1	Abinaya.B (II year)	Basketball	2016	Participation	Shri Angalamman Engineering and Technology, Trichy
2	Bala Selvi.B (II year)				
3	Kanagapavithra.S (II year)				
4	Bavithra.B (II year)	Volleyball	2016	First in Zonal Level	Dhanalakshmi Srinivasan Institute of Research and Terchnology, Perambalur
5	Balakrishnan.S (II year)	Hockey	2016	Second in Zonal Level	Jayaram College of Engineering and Technology, Trichy

**Towards Excellence**