



# Dhanalakshmi Srinivasan Engineering College

Perambalur – 621 212.

Department of Biomedical Engineering

News Letter 2017 – 2018

## 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 (2013-2017):**



14<sup>th</sup> Rank  
S. Aakila

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

- ✍ National Seminar-KPR Institute of Engineering, Coimbatore-4,
- ✍ National level Technical Symposium-Mahendra Institute of Technology,Namakkal-12,
- ✍ National level Technical Symposium-Velalar College of Engineering & Technology, Erode-2.
- ✍ National Hub for Healthcare Instrumentation
- ✍ Development Organized Symposium-Anna University, Chennai-3

- ✍ National level Workshop-PSG College of Technology, Coimbatore-5
- ✍ National level Workshop-NIELIT,Calicut-6
- ✍ National level Seminar organized by NIT, Trichirappalli - M. Kumarasamy College of Engineering, Karur-6.
- ✍ National level Seminar-Sri Ramakrishna Engineering College, Coimbatore-11.
- ✍ International Conference-Publication of Manuscript in the Proceedings (ICAER-2015)-9.
- ✍ National level Seminar- Sri Ramakrishna Engineering College, Coimbatore-2.

**The student contributions in National and International Journals are as follows:**

- ✍ *J. Nasreen banu, S. Thilaga, G. Vinothini*, “Image based label detection with voice output for visually challenged persons using dansiferis”, Impact Factor : 3, IJERME Vol.3, Issue 2018.
- ✍ *Ramya and Punitha*, “Diagnosis and Classification of Breast Cancer from Thermogram Images using Texture Feature & Artificial Neural Network”. Impact Factor : 3, IJERME Vol.3, Issue 2018.

**A total of 111 students underwent Training programmes in various reputed concerns like Madurai-1, Medical Expo-2015, Chennai-34, Meenakshi Hospital, Madurai-8, Velammal Medical College & Hospital, and Elit Mission Hospital, Thrissur-3.**

**The student contributions in National and International conferences are as follows:**

- ✍ Balamurugan M., Adhimoolam S. K., Arunkumar B., “International Conference Analysis of synovial fluid by optical method”, Selvam Engineering College”, Namakkal on 16, 17 MAR 2018.

- ✍ D. Narmatha, N. Siva, M. Pavithra, “International Conference An e-application to detect ravenous in infants”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ N. K. Jameela, Linda Mathew, “International Conference Blood hammer model-modeling and analysis of coronary artery with Vascular occlusion using computational fluid dynamics method”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Arun K., Faseen T., Farzan sathar, Dhanush P.P., “Diagnosis of Wilson disease for the detection of Kayser Fleischer ring in the eye”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Punitha N., Ramya R. B., “Diagnosis and classification of Breast cancer from thermogram images using texture feature and artificial neural network”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Mariya Anjali V. C., Nithyusha P. K., Rifana K., Sameera A. Samad, “A Self Stabilizing Loffle for people suffering from essential tremor”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Abinaya P., Anitha A. P., Devibala S., “Conference Evaluation of Spirulina inoculated microcapsule for diabetics”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ P. A. Anjitha, “Design and implementation of Cardiac biometric imprinting system and detection of arrhythmia”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ N. Muthazhagan, N. Vasantharajan, M.Kasimani, S. Karthikeyan, “Mart paroxysm prediction for parturienta and life saver system”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ M.P. Afnas, Akhilesh P raj, Amal Prasad, Ashique K.P, “Design Dietary Monitoring using Electromyography sensor”, Selvam Engineering College”, Namakkal on 16, 17 MAR 2018.
- ✍ Adithya Murali V. V., Ajmal Rasheed, Arjun K., Akshay Kumar K. R., “Modeling of pelvic fracture implant by using MATLAB & Analysis” Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ R. Ajay, Akshay P. Rajan, Joe jophy, Christo Varghese, “An effective approach to reduce cramps susceptibility in human muscles” Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ M.Preethi, A. V. Sajana, P. Sajay Mol, P. B. Shabanas, “Electromechanically actuated drug delivery system Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ C. Arjun, P. Yadhu Krishnan, “Implantable cardioverter defibrillator with wireless charging and IOT applications”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Rixon jose, Roy Mathew kuruvila, Suhail ismail, “Early lung monitoring system for dyspnea” Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ A. Ajeena, A. Athira, T. Athulya, “Intra body communications using biomedical application”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Aravind Mohan, Blaze Varghese, Muhammed Nadeer, Ibrahim Shithin, “Gait Analysis based smart shoe”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
- ✍ Arun K., Faseen T., Farzan Sathar, Dhanush. P. P., “Diagnosis of Wilson disease for the detection of kayser Fleischer ring in the eye”, K. Ramakrishna Engineering College, Samayapuram on 23, 24 MAR 2018.
- ✍ Jothy Joys, Krishnapriya, Asna, Hareehma, “Preparation and Compatability assessment of hydrogel



- for Osteoarthritis”, Sengunthar Engineering College, Erode on March 2018.
- ✍ Ramya, Punitha, “Diagnosis and classification of Breast cancer from Thermogram images using texture feature & Artificial neural network”, K. Ramakrishna Engineering College, Samayapuram on 23,24 MAR 2018 .
  - ✍ Afnas, Akhilesh P. Raj, Amal Prasad, Ashique, “Dietary Monitoring using EMG Sensors”, K. Ramakrishna Engineering College, Samayapuram on 23,24 MAR 2018.
  - ✍ Preethi, Pragathi, Pargavi. “Synthesis and characterization of SA-PVA Nanoscaffolds for Tissue engineering applicatios”, Selvam Engineering College, Namakkal on 16, 17 MAR 2018.
  - ✍ Third year students Balaselvi, Abinaya, Kanaga Pavithra, Krishnaveni went for in-plant training at Shifa Hospitals, Thirunelveli.
  - ✍ Third year students Kokila Priya, Jefcy, Valliammai, Asima Banu, and Afreen went for in-plant training at KG Hospitals,Coimbatore.
  - ✍ Third year students Bhagya, Fathima, Sneha went for in-plant training at aster MIMS hospitals, Kerala.

## 2.2. Faculty Contributions

### National and International Publications

- ▣ **Dr Sharanabasaveshwar G Hiremath, Prof. S. Krishna Priya**, “A Comparative Review of Lipid-Bound Neuraminic Acid Contents In Membranes of Erythrocytes in Patients Suffering by Glaucoma”, International Research Journal In Global Engineering And Sciences (IRJGES), OCT 2017.
- ▣ **Dr Y. Prakash, Prof. A. K. Nivetha**, “A Study on Magnetic Biodegradable Microsphere”, International Journal of Global Engineering (IJGE), DEC 2017.
- ▣ **Dr V. Rajeevgandhi, Prof.B. Ashmitha**, “A Review on Recent Work in Medical Text Mining”, International Journal of Global Engineering (IJGE), OCT 2017.

### National and International Conferences

- ✍ **Prof.Hemalatha karnan,Prof.K.KarthickBabu**, “Segmentation of Fused CT and MRI Images with Brain Tumor”, Asian Journal of Science and Applied Technology, ISSN: 2249-0698 Vol. 6 No. 1, 2017, pp.1-4.
- ✍ **Prof.A.K.Nivedha**” Divination of abdominal aortic aneurysm by deploying ultrasonic transducer sensor”, IJERT, Volume 6,Issue 07,ISSN 2278-0181.
- ✍ **Prof.C.Narayanan, Prof.S.Ramesh & Prof.S Rajeswaran** “Circardian Rhythm Regulation Using Chromotherapy”, International Journal of Scientific Research and Modern Education (IJSRME), Impact Factor: 6.225, ISSN (Online): 2455 – 5630.
- ✍ **Prof.Hemalatha karnan** “Classification of Ventricular Arrhythmias Using Feature Ranking Score Algorithm”, International Conference on Internet of Things and Machine Learning (IML 2017), ISBN: 978-1-4503-5243-7,IML '17, October 17-18, 2017, Liverpool, UK.
- ✍ **Prof.Rajeevgandhi V,**” Design of hand prosthetic energized by solar panel”, ICIETS-2018.
- ✍ **Prof.A.K.Nivedha** “Gate analysis using Smart Shoe”, ICONNECT 2K18.
- ✍ **Prof.K.Ramya,**” Palpation Verdict of Cardiac Disorder”, ICRTSEM-2018.

The outcome based Education has contributed to continuous improvement of academic career. The beneficiaries, the students, the faculty and the staff, have won laurels through Co-curricular and Extra-curricular activities.

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

#### 1. Association Inauguration & One Day Seminar



The Department of Biomedical Engineering has organized its Association Inaugural and a One Day Seminar, on **22<sup>nd</sup> July 2017**. The Founder and Chairman of Dhanalakshmi Srinivasan Groups of Institutions Shri.A.Srinivasan delivered the presidential address and The Chief Guest of honor Prof. Dr J. Ranganathan, Dean of Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur and Prof. Dr T. Neelakantan, Medical Superintendent of Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur.

The function was inaugurated by the honorable chief guests. Prof. J. Premalatha, the Principal incharge of Dhanalakshmi Srinivasan Engineering College expressed her views about the role of a biomedical engineer. Prof. C. Narayanan, Head of Biomedical Engineering delivered the welcome address. Chief guest Explained about ancient technology 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 4.00 p.m.

#### 2. Biomed Camp-“KRENOVIANTZ ’18



The department has conducted a Bio medical camp “**KRENOVIANTZ ’18** on 19.02.2018. The function was presided by the Chief Guest, Principal, Dr S. Durairaj, BOYSCAST FELLOW, DSEC Perambalur, with warm greetings. He also shared his views about the biomedical field and about



the Biomed camp. He also shared his views about the biomedical field and about the Biomed camp. His speech encouraged the students. On behalf of this function basic medical test namely full physical check up including Blood Group Testing, Hemoglobin Estimation, Height / Weight / BMI, Urine sugar testing, Blood pressure identification have been conducted to students & faculties within the college campus. The medical camp Working models of equipments, Hospital models, and mini projects done by students were also exhibited. At the end Mrs Krishna Priya, Assistant Professor conveyed the vote of thanks.

### 3. National Conference BIOMEMS '18



The department has organized National level Conference on BIOMEMS on 19/03/2018. It provided a platform for the students and research scholars to exhibit their views and ideas on the advanced technologies in the field of biomedical engineering. Shri. A. Srinivasan, Chairman, DS group of institutions, presided the inaugural ceremony. The chief guest Dr R. Ganesan, Professor, E&I, Saveetha Engineering College delivered his ideas on research and technologies. Dr S. Durairaj, Principal discussed about learning strategies and shared his views on the real time biomedical applications. Prof. C. Narayanan, HOD took the lead and other departmental heads give their esteemed presence in the function. Prof. Hemalatha Karnan narrated the overview of the conference. The delegates and research scholars from various institutions presented their paper in the technical session which was evaluated by the technical chair person Prof. B. Hema Kumar, Pondichery Engineering College. Prof. M. Dhayalini delivered the vote of thanks.

#### Placement:

Every year students from the department is being placed in many industrial areas. This year a set of 82 Biomedical Graduates from the current batch have been placed in well reputed companies.

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

S. No	Student Name	Event	Date	Achievements / participations	Place
1	S. Akalya (II year)	Ball Badminton	May 2017	First Prize at Zonal level match	Jayaram College of Engineering, Trichy
2	S. Sowndarya (III year)				
3	Praveena (III year)				
4	Abinaya B.	Basketball	2018	Participated	Shri Angalamman Engineering and Technology, Trichy
5	Balaselvi B.				
6	Kanagapavithra S.				
7	Krishnaveni V.				