

**Department of Biomedical Engineering
Activities**

Faculty Participation:

- Ms.K.Shruthi - Assistant Professor has attended the workshop on **“Medical Device Product Development and IPR”** held at SRM Institute of Science and Technology, Kattankulathur on 7th and 8th Feb 2020.[16]
- Ms.A.Vanitha has attended the **International Conference on Advances in Chemistry with specific reference to catalysis Sensors Drug Delivery and Energy Materials, ICACSEM - 2020** and presented her paper which is held on 9th and 10th January 2020.
- Ms.A.Vanitha - Assistant Professor has participated in ATAL Sponsored Short Term Course on **"Internet of Things: Concepts and Implementation"** at IIITDM, Kancheepuram from 15-11-2019 to 19-11-2019.[15]
- Ms.Shruthi K, Assistant Professor attended the 19 days **Faculty Induction program at IIITDM, Kancheepuram** from 25-11-2019 to 13-11-2019.[14]
- Ms.Shruthi K, Mrs.G.GnancySubha and Ms.Vanitha attended the **Quality Improvement Program “Biology for Engineers”** at **IIT Bombay** from 03-06-2019 to 07-06-2019.[13]

Student participation:

- P.Swetha, II Year has participated in the **International Conference on Advances in Chemistry with specific reference to catalysis Sensors Drug Delivery and Energy Materials, ICACSEM - 2020** and presented her paper titled **“Design of Nano sensor for Soil Nutrient in Precision Agriculture”** organized by University of Madras on 9th and 10th January 2020.
- S.Kavitha - IV Year has participated in the **International Conference on Advances in Chemistry with specific reference to catalysis Sensors Drug Delivery and Energy Materials, ICACSEM - 2020** and presented her paper titled **“Noninvasive Measurement of Black Carbon Deposition for Diagnosis of Lung Disease”** organized by University of Madras on 9th and 10th January 2020.
- B.Vijay Kumar - IV Year has participated in the **International Conference on Advances in Chemistry with specific reference to catalysis Sensors Drug Delivery and Energy Materials, ICACSEM - 2020** and presented her paper titled **“Advanced Detection and Visualization of vein pattern”** organized by University of Madras on 9th and 10th January 2020.
- T Deepak Kannan of III - Year has undergone one month **Internship Training at srushty global solutions pvt.ltd, chennai.**

- Third year students of Biomedical Engineering attended a three days workshop on “**Recent Innovations in controlled and Targeted Drug Delivery Systems**” at GKM College of Engineering and Technology, Tambaram from 08-01-2020 to 10-01-2020.[12]
- Final Year students of Biomedical Engineering have undergone one week **Hospital Training** at **Vijaya Hospital, Vadapalan** from 04-09-2019 to 09-09-2019.[11]
- Third year students of Biomedical Engineering have participated in **Hackathon** organized by St.Peter’s Institute of Higher Education and Research on 13-03-2019 and 14-03-2019 and presented their innovative idea on “**Vein Detector**”[10]
- Third year students of Biomedical Engineering have attended an **Implant Training** on “Embedded Systems” at **DLK Technologies Pvt.ltd**, Chennai from 07-06-2019 to 22-06-2019.
- Third year students of Biomedical Engineering have participated and presented a paper on the topic of “**Presto Bandaid**” and **won first prize** in the National Level Technical Symposium held at SMK Fomra Institute of Technology, Chennai on 16-02-2019.[9]
- Final year and third year students of Biomedical Engineering have undergone a Two weeks **Hospital Training** at **Life line Institute of Minimal Access(LIMA)**, Kilpauk from 24-09-2018 to 06-10-2018.[8]

Awards:

- Mrs.G.GnancySubha, Assistant Professor of our department got “**Best Innovative Student project award**” given by AIIMA at the International Exhibition 2018 for her Innovation “**Gluco-L**”. This equipment will give an instantaneous result of blood glucose by blowing air into the equipment.[7]
- Dr.K.Kantharaj was awarded **Valar Tamil Maamani** by Excellency Thiru. Vyaapuri, President of Republic of Mauritius[6]

Industry Collaborations:

- Signed Memorandum of Understanding with **Palms connect LLC**, Utah, USA on 28th August 2019 to promote research activities in nano sensor design and drug delivery. Dr.BaluRanganathan, Technology-Director, represented the industry.[5]
- Signed Memorandum of Understanding with **India Health Link** on 18th March 2019 to engage students in the development and maintenance of Health Screening Solutions (KIOSK).[4]
- **Srushty Global Solutions pvt.ltd**, chennai has installed two KIOSK health monitoring systems in SPIHER. One in Health care and another in Biotechnology. Faculty members and Students are using the KIOSK without any technical assistance. Students of Biomedical Engineering engage themselves with this KIOSK for collecting and analyzing the data for calibration.[3]

- One day Industrial Visit to “**Srushty Global Solutions Pvt Ltd , Chennai**”. The technical team of srushty explained the on going projects to the students.[2]
- One day Industrial Visit to the healthcare EXPO “**Medicall 2018**” held at Trade centre, Nandambakkam - Chennai.[1]

Research:

Research areas: Nanosensors and Nano materials
Medical Signal and Image Processing
Data analytics for breast cancer detection
HRV analysis for Stress level measurement

Projects / Prototypes Developed:

- Non Invasive Blood Parameters Monitor
- Recognition of Nutrition Intake Levels by Non-Invasive Method using Sensors.
- Gluco - L
- Nano sensor for Soil nutrient testing
- Non invasive measurement of Carbon deposition in the lungs
- Vein Detection using Holographic imaging

Research Papers Published:

1. K Kalaiselvi, GR Suresh, V Ravi, An efficient approach for the detection of link failures in WBAN system for health care applications, International Journal of Communication Systems; <https://doi.org/10.1002/dac.4112>.
2. S Saraswathi, GR Suresh, JeevaaKatiravan, False alarm detection using dynamic threshold in medical wireless sensor networks, Wireless Networks springer, November 2019; <https://doi.org/10.1007/s11276-019-02197-y>
3. Cross T. Asha Wise, G. R. Suresh, M. Palanivelan and S. Saraswathi, Transistor for Low-Frequency Operational Transconductance Amplifier, Journal of Circuits, Systems and Computers; <https://doi.org/10.1142/S0218126620501819>
4. K.Shruthi, V.Vivekitha, S.SyedAlthaf, G.GnancySubha, Segmentation of Multi-Tumor from PET/CT Images, International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-8 Issue-12S2, October 2019
5. GaneshleninKandasamy, Recent Advancements in Doped/Co-Doped Carbon quantum Dots for Multi-Potential Applications, C – Journal of Carbon Research, C 2019, 5(2), 24; <https://doi.org/10.3390/c5020024>.
6. GaneshleninKandasamy, Shaheen Khan, JyotsnenduGiri, Suryasarathi Bose, Naga Suresh Veerapu and DipakMaity, One-pot synthesis of hydrophilic flower- shaped iron oxide nanoclusters (IONCs) based ferrofluids for magnetic fluid hyperthermia applications, Journal of Molecular Liquids, Vol. 275, 699-712, Feb 2019.