



NEWSLETTER-2017



Biomedical
Engineering

JIS COLLEGE OF ENGINEERING, KALYANI
(AN AUTONOMOUS INSTITUTE)



One Day National Workshop on Troubleshooting of Biomedical Instruments on 14th October, 2017

Biomedical Engineering Department is not only one of the oldest departments of JISCE, Kalyani but also it is a unique department which has been offering highly interdisciplinary subject like Biomedical Engineering in B. Tech. program. Here, the students are provided with high end academic as well as technical knowledge to work in medical device industry in order to solve various clinical problems as well as to train the doctors, nurses and therapists in using different kinds of medical equipment. It is very important for every biomedical engineer to have preliminary knowledge of troubleshooting of any kind of modern medical device.

Keeping in mind the motto of the domain, the department of Biomedical Engineering has organized a **ONE- Day National Workshop on Troubleshooting of Biomedical Instruments (NWTBI-2017)** on **14th October 2017** in the College Campus with a sole aim of giving a hands-on exposure to the students in preventive maintenance, fault-finding and servicing process of various analytical, diagnostic and therapeutic equipments along-with biomedical laboratory instruments which is having enormous societal significance in terms of providing technological backbone and control to affordable patient care.

Main objective was to highlight the practical methods of Troubleshooting for different kinds of medical equipments as well as to give a hands-on exposure in preventive maintenance, servicing process to the 2nd, 3rd and 4th year BME students of JISCE, Kalyani.



The program started with a key-note address from **Principal, JISCE** followed by the **Deans** and the **Convener of NWTBI-2017 & HOD of BME Department**. The resource person from the industry, **Mr. B. Sensarma, (Manager-Service, Siemens Healthcare Pvt. Ltd.)** gave a clear concept of bridging the gap between the technology and the engineer. The Hands-on session was started at 11.00 A.M.

Achievement in JISTech2k17

The Department of Biomedical Engineering of JIS College of Engineering exhibited highly innovative health care system related engineering models at its stall in JISTech 2K17. In Biomedical engineering stall, three superb engineering models namely, **“ELECTRONIC BIOHEART”**, **“BE SAFE BE ISOLATED”** and **“ULTRACANE”** were exhibited. The department also arranged a Live Project designated as **“LIVE HEALTH CHECK-UP CAMP”** at the Medical Inspection Room of the Institute. All the faculty members, technical staff and 36 (25 Exhibitors + 11 Volunteers) Biomedical Engineering students (B.Tech 1st year to 4th year) actively participated and brought a great vivacity and success in JISTech 2K17 after maiden achievement in JISTech2K16.



Awarded and Honoured in JISTech 2K17 at JISCE

AWARD FOR :

- 1) BEST PROJECT**
- 2) BEST DEPARTMENT**
- 3) BEST PROJECT WITH SOCIETAL CONTRIBUTION**

R & D Initiative (2017):

UGC Funded Projects (Completed):

- i) **Project Title:** Development of cost effective real time acquisition, processing, analyzing and monitoring system of biosignal for non invasive diagnosis and prediction of cardiovascular abnormalities. **PI: Dr. Meghamala Dutta.**
- ii) **Project Title:** Development of Bone Paste from Waste Egg-Shell for Bone Grafting. **PI: Dr. Sandip Bag**
- iii) **Project Title:** A Spirometric study on Smokers and nonsmokers Engineering College Students. **PI: Mr. Souvik Das.**

Faculty Achievement

- **Dr. Karabi Ganguly- Completed** International Workshop On Biomedical Test Equipments & Calibrations organized by Lub dub medical Technologies Pvt Ltd & Datrend Systems Inc, Richmond, Canada.
- **Ms. Swati Sikdar- Completed** International Workshop On Biomedical Test Equipments & Calibrations organized by Lub dub medical Technologies Pvt Ltd & Datrend Systems Inc, Richmond, Canada.
- **Dr. Karabi Ganguly- Received** the award of Best Paper (A study on the simulation of visual prosthesis for the restoration of functional vision to the blind) Presentation in the International Conference on Electrical Electronics and Data Communication (ICEEDC 2017) Bangalore held on 10th September 2017.
- **Dr. Karabi Ganguly was awarded** certificate for successfully Mentoring the Students in Animal Physiology Course in NPTEL.
- **Sayanti Guha was awarded** with Certificate of Accomplishment from NPTEL as Co-ordinator.
- **Dr. Karabi Ganguly- Participated in** 11th .IPC 2017, International Conference at PAD & BITM, India, January 2017.
- **Dr. Karabi Ganguly- Completed** TEQIP Sponsored Workshop on Biomechanics, Implants and Related Medical Devices at IEST- Shibpur, March 2017.
- **Dr. Sandip Bag- Delivered** invited lecture in a national seminar on "Implant Biomechanics" at IEST, Shibpur, March 2017.

Student Achievement

Sl. No.	NAME	ACHIEVEMENTS	ORGANIZER/ PROGRAMME	DATE
1	SHOUNAK NANDI SHAIKH INZAMAMUL HOQUE SUPRIYA JANA PRANJAL BANDYOPADHYAY DOYELI CHAKRABORTY	Best Project with Societal Contribution	JISCE, JISTech2K17	25.02.2017
2	ARINDAM BHATTACHARYA SWETA PARUI MITUL CHAKRABORTY ASHMITA BERA ASHISH SINGH ARNAB MITRA	Best Departmental Project	JISCE, JISTech2K17	25.02.2017
3	SHAIKH INZAMAMUL HOQUE	Won the 1 st Prize in "GIS Map Making" & participated in "GPS Pack Rat Game".	JIS GROUP & Asian Institute of Technology, Bangkok, Thailand	2 nd -15 th February 2017
4	DOYELI CHAKRABORTY	Won 1 st Prize in "Confident Aami", a self story telling competition	Parachute Advanced Body Lotion & t2	27 th January 2017
5	SWETA PARUI	Won in "GPS Pack Rat Game".	JIS GROUP & Asian Institute of Technology, Bangkok, Thailand	2 nd -15 th February 2017

6	MITUL CHAKRABORTY	Qualified GRE and TOEFL		August 2017
7	PRERANA TALUKDAR	Received the award of Best Paper Presentation (A study on the simulation of visual prosthesis for the restoration of functional vision to the blind)	International Conference on Electrical Electronics and Data Communication (ICEEDC 2017) Bangalore	10 th September 2017
8	ASHMITA BERA	Won the "InQuizitive Minds - India's biggest quiz contest"	JISCE	16 th September 2017
9	AKASH PRASAD GUPTA SOUROJIT SENSARMA KOU MUDI BHATTACHARYA ABHIJIT DEY	Qualified for JIS Group Sponsored collaborative Winter Camp Study Tour at AIT- Bangkok	JIS Group	October 2017
10	a) MITUL CHAKRABORTY b) RITURAJ ROY & DEBLINA BHAUMIK c) AKASH PRASAD GUPTA	a) Received NPTEL Certification b) Received NPTEL ELITE LEVEL Certification c) Received NPTEL COURSE TOPPER AWARD	JISCE in association with NPTEL	July – December 2017 session

Faculty involvement in Conference/Seminar/Workshop organized at JISCE, Kalyani

- **Dr. Sandip Bag**, Co-Convenor, 'JISTech 2K17' – 3rd Technical Symposium 2017 on 25.02.2017
- **Dr. Meghamala Dutta**, Program Chair 'JISTech 2K17' – 3rd Technical Symposium 2017 & Organizing Committee member, International Symposium on "Gen Next Initiatives for Digital India"
- **Dr. Karabi Ganguly**, Organizing Committee member, 'JISTech 2K17' – 3rd Technical Symposium 2017 & International Symposium on "Gen Next Initiatives for Digital India".
- **Mr. Souvik Das**, Departmental Coordinator, 'JISTech 2K17'.
- **Dr. Karabi Ganguly**, Convener, "One Day National Workshop on Troubleshooting of Biomedical Instruments(NWTBI-2017)".
- **Ms. Sayanti Guha**, Technical and Program Committee member, "One Day National Workshop on Troubleshooting of Biomedical Instruments(NWTBI-2017)".
- **Ms. Swati Sikdar**, Technical and Program Committee member, "One Day National Workshop on Troubleshooting of Biomedical Instruments (NWTBI-2017)".
- **Ms. Swati Sikdar**, participated in International Workshop on Recent trends in Computer Vision, organized by Centre of Excellence, JISCE in association with Russian Federation.
- **Ms. Sayanti Guha**, participated in International Workshop on Recent trends in Computer Vision, organized by Centre of Excellence, JISCE in association with Russian Federation.

Industry Visit

VISIT TO NARAYAN INDUSTRIES, KOLKATA on 21/11/2017 and 24/11/2017

A One-Day industry visit for BME 3rd year on 21/11/2017 and for BME 2nd year on 24/11/2017 was organized by the Dept. of Biomedical Engineering, JIS College of Engineering, Kalyani. The purpose of the visit was to enhance industry exposure of the students and to get practical insights into manufacturing of the different Biomedical Components.

The visit was organized at Narayan Industries, Kolkata, and a well known industry in the field of manufacturing healthcare products for more than two decades. They are mainly looking for production of various hospital furniture like patient bed, OT table & OT light, Dialysis chair and Autoclave. They are also involved in manufacturing of Anesthesia Machine and Phototherapy Unit.

As per schedule, the students of BME 3rd year and BME 2nd year reached the Organization by 11 am. JISCE, Kalyani provided the transport facility to the students.



Students got overview of various healthcare products- their working principle and applications.

Publications by Faculty Members:

1. **Ganguly Bhattacharjee K.** (2017): Photography, an Important Tool for Qualitative Analysis of Estrogen Receptor and Progesterone Receptor Number which have Prognostic Importance in Breast Cancer 11th International Conference, IPC2017. PP 94-101.
2. P. Talukder, **K Ganguly**, K Pal: A Study on the Simulation of Visual Prosthesis for the Restoration of Functional Vision to the Blind in the International Conference on Electrical Electronics and Data Communication (ICEEDC 2017).
3. **S.Guha**, P.Basak, T.Das: Diabetes Susceptibility detection with age using heart rate variability in 2nd International Conference for Convergence in Technology (I2CT),Pune, April, 2017 (IEEE).
4. T.Das, **S.Guha** and P.Basak: Prediction of Inferior Zone Myocardial Infarction using Welch's Power Spectral Density Estimation and Discrete Cosine Transform in International Journal of Engineering Science and Research.
5. T.Das, N.Banerjee, **S.Guha**, P.Basak: Development of Thermistor based low cost high sensitive Respiration Rate Measurement System using Audio Software with Audio Input in 3rd International Conference of Biosignals, Images and Instrumentation (ICBSII 2017), Chennai, March 16-March 18, 2017 (IEEE).
6. T.Das, **S.Guha**, A.Ghosh, P.Basak: Early detection of diabetes based on skin impedance spectrogram and heart rate variability noninvasively in 1st International conference on Electronics, Materials Engineering and Nano Technology, April 28-29, 2017 (IEEE).
7. T.Das, **S.Guha**, A.Ghosh, P.Basak: Classification of EEG Signals for prediction of Seizure using Multi-Feature Extraction in 1st International conference on Electronics, Materials Engineering and Nano Technology, April 28-29, 2017 (IEEE).
8. **S.Guha**, A.Ghosh, P.Basak: Classification of EEG Signals in controls and Epileptic Patients in 18th Joint Annual Conference of Indian Epilepsy Association Indian Epilepsy Society (ECON 2017), Patna.