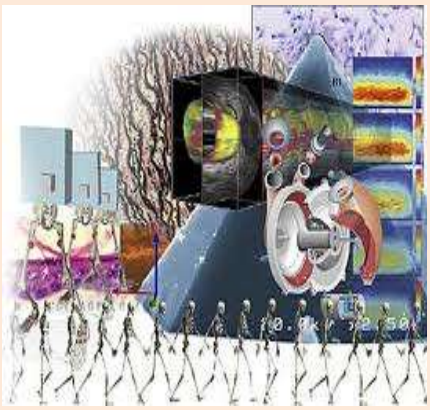

NEWSLETTER-2016

Biomedical Engineering

JIS COLLEGE OF ENGINEERING, KALYANI
(AN AUTONOMOUS INSTITUTE)

TEQIP Sponsored Invited Lecture on "Analysis of Human Brain Activity" on 29th July, 2016

A TEQIP sponsored invited lecture on "Analysis of Human Brain Activity" was organized by Department of Biomedical Engineering on 29th July, 2016. The objective of invited lecture was to enhance the knowledge of students by interacting with the external expert. Dr. Sudip Paul, Assistant Professor of Biomedical Engineering, North Eastern Hill University, Shillong was the invited speaker of that lecture session.

He delivered his lecture in two parts:

Part-1: Study of the Human Brain Anatomy and Recording of EEG signal from the different regions of the brain.

Part-2: Development of Algorithms in MATLAB software which is incorporated the major changes of EEG signals.

TEQIP Sponsored National Seminar on "Recent Trends in Biomedical Engineering Research" (NSRTBER-2016) on 11th May, 2016

A TEQIP sponsored national seminar on "Advancement Recent Trends in Biomedical Engineering Research" [NSRTBER-2016] was organized by Department of Biomedical Engineering on 11th May, 2016.

The objective of the seminar is to highlight the latest and the newest trends in Biomedical Engineering Research as Biomedical Engineering is one of the emerging and fastest growing subjects in engineering at present.

The resource person of the seminar was:

1. Prof. Himadri Chattopadhyay, Dept. of Mechanical Engineering, Jadavpur University
2. Dr Kunal Pal, Dept. of Biotechnology & Medical Engineering, NIT Rourkela.

Prof. Himadri Chattopadhyay delivered an informative lecture on Fundamental and Research trends in the field of biofluid mechanics. In his lecture Dr. Kunal Pal gives a wonderful speech on Advancement of EMG signal characterization and its application in Medical Robotics.

TEQIP Sponsored Student Seminar Competition on 20th April, 2016

A TEQIP sponsored Student Seminar Competition was organized by Department of Biomedical Engineering on 20th April, 2016.The objective of the Student Seminar Competition was to enhance the communication skill and to impart technical knowledge through interaction, in various domains of Biomedical Engineering as it is one of the interdisciplinary & emerging subjects in engineering at present.

The external expert Dr. Sudip Paul, Assistant Professor of Biomedical Engineering, North Eastern Hill University, Shillong was the Humble Judge of this Competition. Best Speaker selection was made year wise from 2nd, 3rd. & 4th Year B. Tech. BME & one Best Speaker of the Event was awarded based on the judgment of internal & external experts.

Achievement in JISTech2k16

The Department of Biomedical Engineering of JIS College of Engineering exhibited highly innovative health care system related engineering models at its stall in JISTech 2K16. In Biomedical engineering stall, three superb engineering models namely, **"SOUND OF MUSIC", "PATIENT SAFETY USING ISOLATION"** and **"EFFICACY OF LUNGS THROUGH EXHALED PRESSURE"** 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 (including B.Tech 1st year to 4th year and M.Tech 1st year) actively participated and brought a great vivacity and success in JISTech 2K16 on behalf of BME Department, JIS College of Engineering, Kalyani.

Awarded and Honoured as the "Best Department" in JISTech 2K16

R & D Initiative (2016):

Ongoing UGC Funded Projects:

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. Meghamala Dutta- Invited for Tutorial Lecture at EmergiTech 2016 at Mauritius organized by IEEE R8 and University of Mauritius**
- **Dr. Meghamala Dutta-Invited Lecture at KV No. 2 Saltlake Kolkata**
- **Dr. Karabi Ganguly, Dr. Karabi Ganguly- Certificate of Accomplishment from Asian Institute of Technology, Bangkok, Thailand**
- **Dr. Karabi Ganguly-Invited Lecture at SIMST, Kolkata, Sept-2016**

Student Achievement

SL. NO.	NAME	ACHIEVEMENTS	ORGANIZER/ PROGRAMME	DATE	POSITION
1	**SREETAMA DAS**	1)Best Project 2)Best Department 3) Presentation	JISTech 2016 JISTech 2016 Student seminar competition	Jan 2016 Jan 2016 April 2016	1st 1st 1st
2	**ARNAB GOSWAMI**	1)Best Project 2)Best Department 3) Presentation 4) Internship 5)Photography exhibition	JISTech 2016 JISTech 2016 Student seminar competition NIT, Raipur Photography and trekking club, JISCE	Jan 2016 Jan 2016 April 2016 July 2016 Jan 2016	1st 1st Participation Participation Participation
3	**SAYANI SARKAR**	1)Best Department	JISTech 2016	Jan 2016	1st

Faculty involvement in National/International Conference organized at JISCE, Kalyani

- **Dr. Sandip Bag, Co-Convenor, The International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET)**
- **Dr. Meghamala Dutta, Programme Chair, The International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET)**
- **Dr. Karabi Ganguly, Venue Preparation & Stage Management Chair, The International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET)**

Publications by Faculty Members:

1. **Bag S, Ganguly K** & Biswas B K (2016):Structural Characterization of NanoCrystalline Hydroxyapatite produced from Waste Egg-Shell.
2. **Bag S** & Biswas B K (2016): Review on Bioactive Ceramic Coating. International Journal of Pharma and Biosciences, Vol - 7(2), 2016, pp. 117-128.
3. Talukdar P, **Bag S** & Bhattacharjee S (2016): Design and Development of a Passive Knee Ankle Foot Orthosis. International Journal of Biomedical Engineering. Vol-2(2), pp 7-12, 2016**.**
4. **Ganguly Bhattacharjee K**, Sinha AK (2016). Insulin Induced Down Regulation of the Progesterone Receptor Number in Neutrophils in the Synthesis of Maspin in Breast Cancer. J Cancer Prev Curr Res. DOI: 10.15406/jcpcr.2016.04.00136. 4(5) 00136:01-06.
5. **Ganguly Bhattacharjee K**, Manna N (2016). Extraction of Fundamental Frequency of Human Voice by Autocorrelation Technique. Innovative Systems Design and Engineering. ISSN 2222-1727 (Print) ISSN 2222-2871 (Online).7(4):23-28.
6. **Das S.** and Sikdar S. A Review on the Non-conventional Energy Sources in Indian Perspective, International Research Journal of Engineering and Technology, pp. 403-409, Vol. 3(2), 2016 (p-ISSN No: 2395-0056, e-ISSN: 2395-0072; Impact Factor -4.45)
7. **M Dutta** et al; A Software Based Approach to Acquisition and Analysis of BioSignals using CSAP. IEEE XPlore Digital Library
8. **M Dutta** et al; A Study on Data Acquisition and Analysis in Real Time for Prediction of Cardiovascular Diseases in Real Ti8me using indigenous Low Cost CHMS. Lecture Notes in Networks and Systems. Springer Book Chapter
9. S Patra, P Basak, **DN Tibarewala**: Synthesis of gelatin nano/submicron particles by binary nonsolvent aided coacervation (BNAC) method. Materials Science and Engineering: C 59, 310-318.
10. A Khasnobish, A Konar, **DN Tibarewala**, AK Nagar: Bypassing the Natural Visual-Motor Pathway to Execute Complex Movement Related Tasks Using Interval Type-2 Fuzzy Sets. IEEE EXPLORE
11. A Ray, SK Nayak, B Champaty, **DN Tibarewala**, K Pal; Non-Linear Analysis of Heart Rate Variability and ECG Signal Features of Swimmers from NIT-Rourkela: A Case Study. Computational Tools and Techniques for Biomedical Signal Processing, 56-75.
12. A Khasnobish, M Pal, **DN Tibarewala**, A Konar, K Pal; Texture-and deformability-based surface recognition by tactile image analysis. Medical & biological engineering & computing, 1-15
13. S Bhaduri, A Khasnobish, R Bose, **DN Tibarewala**. Classification of lower limb motor imagery using K Nearest Neighbor and Naïve-Bayesian classifier. Recent Advances in Information Technology (RAIT), 2016.
14. S Paul, A Banerjee, R Ghoshal, **DN Tibarewala**. Development of ultrasonic tachography system for gait analysis. International Journal of Biomedical Engineering and Technology 20 (1), 66-95
15. B Champaty, **DN Tibarewala**, B Mohapatra, K Pal; Development of EOG and EMG-Based Multimodal Assistive Systems. Medical Imaging in Clinical Applications, 285-310.
16. A Khasnobish, M Pal, D Sardar, **DN Tibarewala**, A Konar: Vibrotactile feedback for conveying object shape information as perceived by artificial sensing of robotic arm. Cognitive Neurodynamics, 1-12.
17. A Rakshit, A Banerjee, **DN Tibarewala**: Electro-oculogram based digit recognition to design assitive communication system for speech disabled patients. Microelectronics, Computing and Communications (MicroCom), 2016.