



Dronacharya College of Engineering

ISSUE

vol vi issue LIV

Bio - Medical Engineering

In This Issue....

- ✦ Editor's Desk
- ✦ HOD'S Desk
- ✦ Major Events
- ✦ Laboratories
- ✦ Medical Cell
- ✦ Achievers
- ✦ Research & Publication
- ✦ Live Projects Undertaken by Students
- ✦ Student's Viewpoint

From Editor's Desk :

Today, the world is driven by two major tools: the youth and the technology. We, at **Dronacharya College of Engineering**, are focused on combining both and creating a powerful Society which possesses the capability to drive the future of our Nation.

DCE provides a highly conducive academic environment, interaction with industry and a strong alumni base spread throughout the world. It has an enviable infrastructure fully connected with Wi-Fi facility. The academic pursuit of students is fully supported by highly qualified faculty members and a modern & well-stocked library etc.

Here, the work-culture is very congenial and supportive. Faculty members are always given their due importance and intellectual freedom for pursuing higher studies and attending Seminars, Conferences, Workshops etc. We are thankful to our magnanimous, visionary **Management** and dynamic Principal, **Prof. (Dr.) B. M. K. Prasad** for promoting research and publication that take place at and under the auspices of DCE.

We take every initiative to provide a platform to the budding engineers who are yet to get shot at proving themselves. We also conduct **Personality Development Programmes** for their overall development. To ensure success in an interview, we train our students how to maintain Positive Attitude, Leadership skills, Teamwork skills, Critical thinking and problem-solving skills, Interpersonal skills, Communication skills etc.



"Arise, Awake with devotion, determination and motivation to remain useful and efficient throughout your life."

Editor, (Dr. Sunil K. Mishra)

From HOD's Desk :

Biomedical Engineering has emerged as its own discipline compared to many other Engineering fields. Biomedical Engineering courses educate a student how to get technical expertise in biology and medicine simultaneously and contribute effectively. **Dronacharya College of Engineering** provides well-equipped laboratories with latest equipments available to give practical experience to students. An additional laboratory has been established for biomechanics to improve technical skills of students about prosthesis and orthosis of human body. The department has taken a number of initiatives to impart the best of knowledge in this field and improve their overall personality.



Special measures have been taken to give exposure and training to the students in reputed hospitals and companies; special classes have also been incorporated in their course curriculum so that the department churns out successful Biomedical engineers. The department has well envisaged future plans to strive 100% success. We further aim to emphasize on more research and development work to increase interaction with branch related industries, Medical institutes etc.

Head of Department, (Prof. (Dr.) D. P. Singh)

Major Events :

Faculty Development Programme in association with WIPRO (Mission 10X)

DCE, Gurgaon in association with WIPRO, Bangaluru having collaboration with Dale Carneige University USA, organized a five day "**Mission 10X**" workshop as a part of **Faculty Development Programme** in the campus from **10-14 Jan 2011**. The aim of this workshop was to inculcate/enhance the teaching skills among faculties so that they become capable in imparting education to engineering students in such a way that their employability increases ten times. The workshop was inaugurated by **Hon'ble Principal, Prof.(Dr.) B. M. K. Prasad on 10 January,2011**. Our 31 faculty members from various departments participated in the workshop. The WIPRO team brought out during their presentations and discussions as to how the teachers and students can demonstrate their uniqueness, explore their strength and talents. Gardners theory of multiple intelligence and Blooms' Taxonomy were discussed in detail. The participants learnt the different methods of teaching in classroom so to make all students understand the concepts and fundamentals. Special emphasis was given on how to prepare and execute effective session and lesson plans. The last session started with a address by Hon'ble Principal. He appreciated the initiatives taken by WIPRO team for making a valuable contribution to the success of Mission 10X workshop. He hoped that after going through Mission 10X workshop, the faculty members will be better equipped and will be able to motivate our students to pay more attention to their studies thus making the teaching-learning process very effective.



Hon'ble Principal, Prof. (Dr.) B. M. K. Prasad presenting a memento to Mrs. Gargi



Mrs. Gargi from WIPRO delivering a lecture



Mr. Aditya Sharma from WIPRO presenting his views Mission10X



Hon'ble Principal, Dean Academics, HOD (BME) Prof.(Dr.) D. P. Singh, with WIPRO Team on Mission10X

Laboratories :

The department of Biomedical Engineering has several laboratories fully equipped with modern and sophisticated instruments to provide our students sound technical skills to ensure their success.

Human Anatomy and Physiology lab gives the understanding of various systems working in the human body. Various hematological tests are also performed in the labs. Thus, this lab gives the essence of the biomedical field to the students. The entire diagnostic tests related to blood and urine analyses are performed in biochemistry labs which enable our students to understand the biochemical alteration and physiological changes related to various diseases. After experimenting these tests the students apply their knowledge to understand how various biomedical equipments are used to measure the body activities.

Biomedical Equipment Lab is established to give technical hand of expertise on Pacemaker, ECG Telemetry, EMG, EEG etc. This helps the students to understand the operation of various equipments. Biomechanics lab will help the students to understand mechanics involved in the movement of body parts mainly muscles, bones and their joints. This knowledge will help the students to understand the working of various prosthesis & orthosis. All these labs would broaden the technical acumen of students which will increase their credibility in the industry.

Medical Cell :

The department of Biomedical Engineering has set up a Medical Cell to take care of day- to- day ailments of students, faculty and other staff members in the college. The main objective of the Medical Cell is to provide emergency medical services for asthmatic, diabetic, heart ailments, reaction of medicines, food-poisoning, blood pressure etc. The Medical Cell is well equipped with instruments like nebulizers, oxygen cylinders, infrared lamps, stretchers, inhalers, BP instruments and Ambo bags etc for emergency. It also provides physiotherapy to the patients if required.

Achievers :

In the field of academic achievement we can boast of many university rank holders and have a long list of students exhibiting their academic brilliance. The result of last semester was excellent. Moreover, the following students have made us proud by getting merit in M.D.University, Rohtak:

List of University Merit Holders in May 2010, V Semester

Roll No	Name	University Position
10415	Madhrrima Gupta	14th
11416	Shivika Awal	15th

List of University Merit Holders in May 2010, III Semester

Roll No	Name	University Position
11411	Nitesh Kumari	4th
11416	Priyanka	7th
11401	Aditya Sharma	9th
11402	Akriti	10th
11414	Pooja Deswal	12th

Research and Publication :

To keep the pace with achievements in technology, the faculty and students are groomed through attending seminars, conferences and publishing research papers. In the days of global competition, the faculty members and students of BME are keen to bring a wide variety of experience in professional and academic expertise, as well as innovative ideas to move the department ahead. Our students and faculty members published the following research papers in ***Dronacharya Research Journal, ISSN NO: 0975-3389, Volume-II, Issue-II (July-Dec, 2010)***:

- ✦ **Human Brain on microchip**, Pragti Yadav, Anuradha and Tanu Rawal.
- ✦ **Hyperthermia for liver cancer treatment**, Monu Bindal, Amninder Kaur and Meenkshi Yadav.
- ✦ **Bio-gel a natural substitute for brain injuries**, Kanchan Bansal, Mohika Rao and Sheetal Yadav.
- ✦ **The effect of load distribution on heart rate using a modified backpack in children**, Madhurima Gupta and Meenkashi Yadav.
- ✦ **Molecular MRI on tumor angiogenesis using CMGR labeled paramagnetic quantum dots**, Shubransh Pandey, Jyotsana and Smita Srivastava.

Live Projects Undertaken by Students :

The final Year students undertake the fabrication of live projects as a part of tracing curriculum under the guidance of highly competent faculty. Some of the projects developed and fabricated by our students have been unique which display deep understanding of the concept and application of biomedical engineering. The projects of our students selected for GIA, DST and patenting are listed below:

Automated Wheelchair

The objective of this project is to design a power wheelchair with a novel control system for the persons with disabilities having head and neck mobility.

Project Guide

✦ Ms. Tanu Rawal

Team

- ✦ Ms. Shivika Awal (Roll No 10433)
- ✦ Ms. Kanika Malhotra (Roll No 10414)
- ✦ Mr. Sahil Chaudhary (Roll No 10430)
- ✦ Mr. Utsav Jaiswal (Roll No 10437)

Biomedical Signal Acquisition, Processing and transmission using smart phone

Programming of system of acquisition, processing and transmission of biomedical signals using mobile devices.

Project Guide

✦ Prof (Dr.) D.P. Singh

Team

- ✦ Mr. Maneesh (Roll No10416)
- ✦ Mr. Rahul Tiwari (Roll No10426)
- ✦ Ms. Manisha Dhiman (Roll No10418)
- ✦ Ms. Preeti Yadav (Roll No10424)
- ✦ Mr. Harish (Roll No10409)

Wire Photoplethysmography

To design a Wireless Photoplethysmograph

Project Guide

✦ Ms. Meenkashi Yadav

Team

- ✦ Mr. Maneesh (Roll No10416)
- ✦ Mr. Rahul Tiwari (Roll No 10426)
- ✦ Mr. Harish (Roll No10409)
- ✦ Mr. Harshit Tripathi (Roll No 10410)

Student's Viewpoint :

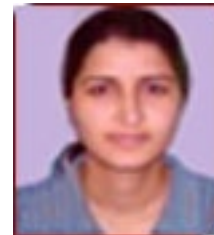
"The beautiful thing about learning is that no one can take it away from you."

Biomedical Engineering encompasses bio instrumentation, biomaterials, bio-mechanics, medical imaging, genetic engineering, orthopedic surgery, cellular and tissue engineering. It strives towards attaining perfection in the world of healthcare and medicine. This course proves to be very handy for the career development of the students and the job prospects for this course are really bright.



Aditya Sharma (Roll No. 11401)

Dronacharya, the Guru with par excellent teaching skills under whose guidance great warriors like Arjun exhibited marvelous skills of technical use of weapons & fought against Kauravas as a one man army. So is our DCE, encouraging the students to exceed beyond their limits along with discipline which is one of the key tools of success. **BME** is the integration of medicine, instruments, biotechnology & pharmaceuticals etc. Hence, it summarizes the course of scientific development & research around the world as "borderless".



Pooja Deswal (Roll No. 11414)

Gurukul is the exact word for our prestigious College which is on the way of getting global success in Academic field. **Our college has become beginner's guide for all other institutions. Highly educated and painstaking faculty members** treat us as their own children & devote their valuable time to impart not only the technical knowledge but also the much needed social values to us.



Akriti (Roll No. 11402)

