



# Dronacharya College of Engineering

## ISSUE

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## Mechanical Engineering

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### From Editor's Desk :

The objectives of imparting education, combined with creation, dissemination and application of knowledge, are being met in an integrated form at **Dronacharya College of Engineering, Gurgaon**. The College aspires to promote an intellectual climate through artistic creation, critical mediation and innovative ideation in a culture of reciprocal transformation.



A systematic development in soft skills and overall confidence building through weekly programs is unique of our holistic teaching pedagogy. We groom our students with intellectual competence, linguistic ability, interpersonal skills, societal skills to achieve excellence in every endeavor be it education, research, consulting or training etc. Beyond purely academic pursuits, **Dronacharya College of Engineering, Gurgaon** offers a wide range of social, cultural and recreation activities.

We are in constant touch with parents and keep informing the performance of their wards through the correspondence. Placement of young energetic budding engineers is of prime importance to all of us. We involve students not only in the acquisition of a formal qualification valued in society but also in the excitement of investigation, the pursuit of ideas and the satisfaction that comes from applying technical knowledge.

On behalf of **Dronacharya fraternity**, I wish you a very Happy New Year-2014. New year is the time of new beginnings; the time to see off the past; embrace life and cheer as it comes to you. As the new year blossoms, *May the journey of your life be fragrant* with new opportunities, dimensions, responsibilities; your days to brighter with new hopes and may your heart be happy with eternal love!

May the new year-2014 ring in your life the best of the two worlds- boundless peace unbridled prosperity, high profile popularity, scintillating successes, enviable achievement of tantalizing targets, unruffled reputation, top-notch name and unfading fame!!!

**Editor, (Dr. Sunil K. Mishra)**



## From HOD's Desk :

***Hearing, reciting, meditation and discussion are the steps of learning a subject".***

Mechanical Engineering happens to be the back bone of any industry with amazing versatility. The department of Mechanical Engineering strives to train students in mechanical engineering science as well as application of these scientific methods to conceive, organize and carry out scientific design of engineering system.

We at Mechanical Engineering Department of **DCE, Gurgaon** provide a broad-based education in diverse disciplines that opens your mind, fuels your curiosity and empower you to achieve great success in the ever-changing globalized world.

This department has dedicated and competent faculty members who contribute their best in imparting quality education, project guidance, personality development etc. to enable them to be placed with a reputed Organization. To be successful in the current age of breath taking speed and highly competitive environment it requires a totally different set of skills and mind set.

***"The world is your oyster, look for the pearl".***



*Head of Department, Prof. (Dr.) S. K. Bagga*

## Workshops/Conferences/Seminars :

### **STC on VLSI Design -II :**

The Department of Electronics and Communication Engineering, Maulana Azad National Institute of Technology, Bhopal organized a Short Term Course on VLSI Design-II from **26th Dec 13 to 28th December 2013**. The course was sponsored by TEQIP-II (Technical Education Quality Improvement Program-Phase II) by AICTE, New Delhi. **Mr. Ashish Gambhir** from ECE Department of **Dronacharya College of Engineering, Gurgaon** has attended the workshop. The aim of the course was to give an overview and hands-on experience to the participants on the state-of-the art EDA tools and Synopsys tool for VLSI Design.

### **STC on 'Medical Signal Processing & Its Interpretation :**

**Mrs. Amninder Kaur** from ECE Department of **Dronacharya College of Engineering, Gurgaon** attended a five day short term course at Dr. B.R Ambedkar National Institute of Technology, Jalandhar from **23rd to 27th December 2013** on '**MEDICAL SIGNAL PROCESSING & ITS INTERPRETATION**'. The course covered the basics of Human Physiological Systems, Bioelectrical Signals and their Acquisition, Basics of Medical Signal Processing, Analysis, Interpretation for correlating them with specific features related to disease classification, Clinical Applications.

### **Body Analysis Camp Organized by Herbalife :**

**Health Club** of **Dronacharya College of Engineering, Gurgaon** organized a free **Body Analysis Camp** for faculty members in collaboration with **Herbalife** on **21<sup>st</sup> December 2013**.

The event was organized to make people aware of the importance of staying healthy and fit. **Ms. Tanu Jain**, Senior Consultant from Herbalife gave a presentation on how to manage our health in a tight daily schedule.

Another senior consultant, **Mr. Vidya Sagar**, to figure out what wrong they were actually doing in their daily routine and how can they improve their life style to gain a better health. Overall the participation was enthusiastic.



**Principal Prof. (Dr.) Mir Nassir Hussain getting his body analysis done in the Health Check-up Camp.**



**Prof. H.S. Dua, HOD ECE, undergoing personal counseling from HerbaLife Consultant.**



**Principal Sir along with HOD's for the health awareness presentation.**



**HOD Appl. Sc. & Hum. and Registrar interacting with HerbaLife Consultant**



**Height Measurement for Body Analysis.**



**Ms. Tanu Jain, Senior Consultant from Herbalife sharing her views on healthy lifestyle**

### **FDP on Data Mining & Social Media Analysis-Emerging Trends & Challenges :**

**Ms. Chesta Agarwal**, Assistant Professor, CSE Department and **Mrs. Megha Goel** from IT Department of **Dronacharya College of Engineering, Gurgaon** attended a one Day Faculty Development Programme (FDP) on "Data Mining and Social Media Analytics - Emerging Trends and Challenges", on **21<sup>st</sup> December, 2013**, at Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi. **Prof. M. N. Hoda** (Director, BVICAM), **Shri R.K. Vyas** (RVP R-1, CSI), **Shri Prakash Kumar**, National Technology Officer, Microsoft shared their views on some concepts like Web Mining for Namesake Disambiguation & Alias Identification, Research Challenges in Web Mining, Hands on Rapid Miner, Weka etc.



## National Seminar on Create a Job Through Entrepreneur Education :

**Dr. Sunil Mishra**, Associate Professor, **Department of Applied Sciences & Humanities** of **Dronacharya College of Engineering, Gurgaon** attended a one-day National seminar on Create a job through Entrepreneur Education conducted by the **Centre for Education Growth & Research (CEGR)** at India International Centre, New Delhi on **19<sup>th</sup> December 2013**.

The objective of this seminar was to disseminate the principles of Entrepreneur Education and make the learners more aware in creating job opportunities.

Inaugurating the seminar **Dr. Atul Jain**, the **President of CEGR** shared that formal education is positively correlated with entrepreneurship. He emphasised that education and training can have definite role in enhancing entrepreneurship in the context of a developing country like India by enlarging the pool of entrepreneurs.

**Hon'ble Chief- guest Dr. Santosh Mehrotra, Director General-IAMR (Planning Commission)** expressed that **Entrepreneurship** is a dynamic process of vision, change, and creation. **Mr. S.P. Singh, Former Director (HR), NTPC Ltd.** explained the evolution of entrepreneurship education and discussed the role of entrepreneurship in Indian economy. He also shared the holistic approach of education. Other seasoned speakers **Dr. Suresh Sachdev**, Vice-Chancellor-NIILM University; **Dr. Sudip Mallik**, Advisor, NIESBUD; **Mr. Vikas Khanduri**, Director-Viva Voyages; **Dr. Pankaj Gupta**, Director General, Jaipuria Group of Institutions; **Mr. Jatinder Singh**, Secretary-Education, PHD Chambers of Commerce, **Ms. Jayashree Srivastava**, Sr. Vice President-CEGR also enlightened the attendees on various aspects of Entrepreneur Education.

The seminar was informative and interesting as more than 120 attendees availed the opportunity to interact with various experts on Entrepreneur Education.



**Dr. Atul Jain, the President CEGR welcoming the guest speakers and participants**



**Hon'ble Chief-guest and the panellists presiding over during the seminar**



**Dr. Santosh Mehrotra, Director General-IAMR (Planning Commission) sharing his views**



**The participants during the seminar at IIC, New Delhi**

## National Conference on Rashtriya Unhchatar Shiksha Abhiyan (RUSA):

On **18<sup>th</sup> December 2013**, **Prof. (Dr.) Sri Krishan Yadav**, Head, Applied Sciences & Humanities Department of **Dronacharya College Of Engineering, Gurgaon** attended a one-day **National Conference on Rashtriya Uchchatar Shiksha Abhiyan (RUSA): Challenges and Opportunities for Higher Education Institutions** jointly organized by **Association of Indian Universities (AIU)** and **The Associated Chambers of Commerce and Industry of India (ASSOCHAM)** at Hotel Le-Meridian, New Delhi.

**RUSA** is a centrally sponsored scheme proposed by Ministry of Human Resources and Development (MHRD), Govt. of India, New Delhi with a mission to bring in various reforms in the Higher Education System in the country. This scheme will spread over two five year plans i.e. 2012-17 and 2017-22. RUSA believes on key principles of performance based development, improvement in teaching learning quality, critical thinking and research.

The conference started with the presidential address by **Prof. D.S Chauhan**, Secretary General, AIU followed by the welcome address delivered by **Shri Vinay Rai**, Chairman National Council on Education, ASSOCHAM. Addressing more than 120 participants, **Prof. Chauhan** said that education has evolved over the years; from closed walls to correspondence courses and then to online learning. The advent of advanced technology and the subsequent birth of e-learning have paved the path for a revolutionary and futuristic form of higher education i.e. Massive Open Online Courses (MOOCs). **Shri Vinay Rai** expressed that MOOC provides interactive user forums that enable them in building a community for students, academics and teaching assistants.

**Prof. Shyam Menon**, Vice Chancellor, Dr. B R Ambedkar University, Delhi; **Sri Chaitanya Prasad**, IAS, Controller General of Patents, Designs & Trade Mark, New Delhi; **Prof. Ranbir Singh**, Vice Chancellor, National Law University, Delhi, **Shri R.P Sisodia**, IAS, Joint Secretary, Department of Higher Education, GOI, **Dr. Jayanti Ravi**, IAS, Commissioner, Commissionerate of Technical Education, Government of Gujarat shared their views on **Strategies of Planning, Capacity Building, its processes and approval** etc. Other distinguished panelists **Shri Ashok Thakur**, IAS, Secretary, Govt. of India, MHRD, New Delhi; **Prof. P B Sharma**, Vice Chancellor, DTU, Delhi; **Shri Pawan Agarwal**, IAS, Adviser, Planning Commission, New Delhi; **Prof. Santosh Panda**, Chairman, NCTE, enlightened the participants on the Pragmatic and Financial Norms of Various Components of RUSA Scheme. They explained that RUSA aims to have a new approach towards funding higher education in state Universities and colleges through state councils for higher education, an idea mooted in the National Policy on higher education, 1986. It conveyed that RUSA believes in the key principles of performance based funding and rely upon a management information system to gather the essential information from institutions.

The distinguished academicians, bureaucrats laid special emphasis on **performance based funding** to the universities and colleges, linkage with states, universities and colleges for the purpose of funding, setting up of accreditation agency by each state for monitoring quality education; **autonomy with accountability**; eligibility of grants to the accredited institutions only; recognition under Section 2f and 12 B of UGC Act, 1956.

The conference was useful as the attendees understood the **importance** of quality education with sharper focus on equity based development, inculcating new approaches to teaching- learning pedagogies, innovation, creativity, quality research and accreditation etc.

### Ist International Forum on Asian Water Environment Technology :

**Dr. Vimla Yadav**, Associate Professor, Applied Sciences & Humanities, **Dronacharya College of Engineering, Gurgaon** attended the 1<sup>st</sup> International Forum on Asian Water Environment Technology held from **18th to 20th December 2013**, at JNU New Delhi. The International Forum was organized in quest to integrate scientist fraternity working in the field of water and waste water treatment to save the future of world in large. The summit was organized by Research Centre for Water Environment Technology, University of Tokyo in co-ordination with School of Environmental Science, JNU, IIT- Roorkee and Department of Environmental Science, Tezpur University.

The Keynote address was delivered by **Prof. Hideki Harada**, Tohoku University, Japan on the theme Innovative Sewage Treatment System with Minimal Energy Requirement.



**Dr. Vimla Yadav at the International Forum, JNU, New Delhi**

## Conference on Women Empowerment Bringing Women to The Boardrooms :

**Ms. Chesta Agarwal**, from CSE Department of **Dronacharya College of Engineering, Gurgaon** attended a Conference on Women Empowerment Bringing Women to the Boardrooms by Confederation of Indian Industry (CII) at Hotel Westin, Gurgaon on **December 17th, 2013**. The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

## ATP on Information Security on Virtual Training :

**Mrs. Minakshi Memoria** and **Mrs. Meenu Gupta** from CSE Department and **Mr. Vinod Kumar** from IT Department of **Dronacharya College of Engineering, Gurgaon** attended Advance Training programme on Information Security on Virtual Training by C-DAC Hyderabad from **17<sup>th</sup> December, 2013** to **27<sup>th</sup> December, 2013** at ISEA Lab, Department of Electronics and Information Technology 6, CGO Complex, Lodhi Road, New Delhi -110003. The Advanced Faculty Training program of C-DAC aimed to provide hands-on exposure to faculties on various fields of Information Technology related to Application Software, System Software and Embedded Software.



**Certificates distributed by Deputy Director of NIEIT**

## National FDP on Entrepreneurship:

**Mr. Ajit** from Electronics & Communication Engineering Department of **Dronacharya College of Engineering, Gurgaon** attended a two week FDP in Entrepreneurship conducted by Entrepreneurship Development Institute of India (EDI India) sponsored by National Science & Technology Entrepreneurship Development Board (NSTEDB) and Department of Science and Technology (DST), GOI at EDI Campus, Gandhinagar from **16th** to **27th December 2013**.

## Three Day Conference on Scipy by IIT, Bombay :

**Mrs. Chitra Kaul**, Associate Professor, Department of CSE, **Dronacharya College of Engineering, Gurgaon** attended a three days conference Scipy 2013 organized by IIT Bombay from 13<sup>th</sup>-15<sup>th</sup> December 2013 to spread the use of Python for Scientific Computing in various fields.

## 1st Cardiovascular Bioengineering Symposium, 2013 :

**Prof. Swati Jha**, HOD, Electronics & Computer Engineering Department attended **1<sup>st</sup> Cardiovascular Bioengineering Symposium, 2013** on "**Cardiovascular Research: Opportunities and Challenges in India**" sponsored by **Quality Improvement & Continuing Education Programme, Indian Institute of Technology, Delhi** on **12<sup>th</sup> December 2013**. Symposium started with the welcome speech by **Dr. Suneet Tuli**, Dean, Research & Development, IIT Delhi. It was followed by the talk of **Dr. Sanjeev Sanghi**, Professor & Acting Head, Dept. of Appl. Mechanics, IIT Delhi.

**Dr. Rajiv Narang**, Professor, Department of Cardiology, AIIMS Delhi shared information regarding technological advancements in treatment of cardiovascular disorders. **Dr. Sujay Shad**, Senior Consultant Cardiac Surgery, Sir Ganga Ram Hospital talked on opportunities and challenges in Cardiovascular Research. **Dr. Naresh Bhatnagar**, Professor, Department of Mechanical Engineering, IIT Delhi briefed regarding "Biodegradable Polymer Stent: from concept to realization". **Dr. Rajiv Parakh**, Chairman, Division of Peripheral and Endovascular Surgery, Medanta Medicity discussed on, "Vascular Health Assessment". **Dr. Gohil Nivedita Karmakar**, Associate Professor, CBME, IIT Delhi shared the information regarding hemodynamics and vascular cell interactions. **Dr. Alok Ray**, Professor, CBME, IIT Delhi (Retd.), & Director, Stanford-India Biodesign showed his concern on the extent (around 80%) of import of medical devices in India.

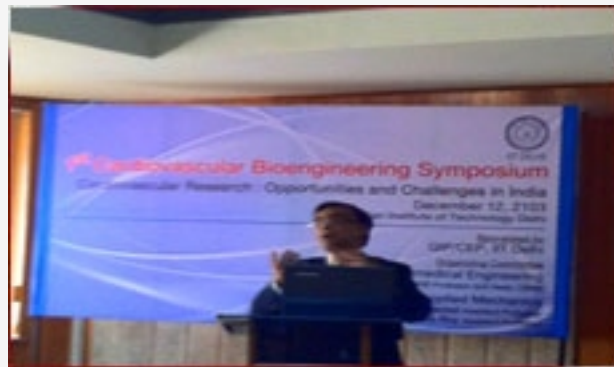


**Mr. Amit Bhatnagar**, Founder of Accuster Technologies Pvt. Ltd., Gurgaon enlightened on an unique initiative of his company in the name of "Mobile Lab". **Dr. Rajnish Juneja**, Professor, Department of Cardiology, AIIMS Delhi focused on the cardiac anatomy and physiology for the biomedical engineers. **Dr. Meenakshi Sharma**, Scientist at ICMR (Indian Council of Medical Research) shared information on opportunities for research. The day closed with the presentation by **Mr. William H Marks**, Fulbright-Nehru Scholar and Visiting Faculty, IIT Delhi who shared his research results on "Hydrogel composites for cardiovascular tissue engineering".

The goal of this symposium aimed to bring experts together from health care, medical device industry, bioengineering research, and government agencies to share their experience and plan ahead. Above all, the symposium's objective was to train next generation of bioengineering and biomechanics experts.



**Dr. Sujay Shad, Senior Consultant Cardiac Surgery, Sir Ganga Ram Hospital delivering his lecture**



**Dr. Rajiv Parakh, Chairman, Division of Peripheral and Endovascular Surgery, Medanta Medicity talking on, "Vascular Health Assessment"**

### Seminar on "Dell Solutions Tour 2013-Driving IT Transformation" :

**Mr. Chain Singh**, Assistant Professor from Department of Computer Science & Engineering at **Dronacharya College of Engineering, Gurgaon** attended Seminar on "Dell Solutions Tour 2013-Driving IT Transformation" **organized by DELL Software** at **Hotel Oberoi, New Delhi** on **12th December 2013**.

### Microsoft FIFA-2014:

Microsoft is holding the FIFA World Cup in June-July 2014 in Brazil. 2014 FIFA World Cup Brazil is the official upcoming video game for the 2014 FIFA World Cup, published by EA Sports. FIFA World Cup game is in development for Xbox One and Play Station 4 consoles. Microsoft is focusing game development for new IP including **The Sims 4, EA Sports UFC, FIFA World Cup** and **Dragon Age: Inquisition**. **Mr. Hemant** and his team visited **Dronacharya College of Engineering, Gurgaon** with this initiative on **12<sup>th</sup> December, 2013**. Students were required to register online. Participants competed with two players from Microsoft on XBOX. The winner was promoted to the next round, where they had to compete with the teams from Microsoft Corp. It has taken initiative to give the winner of online XBOX football game, the ticket of FIFA Final's match. The final winner of this event will get the golden opportunity to go to FIFA finale in Brazil.

More than 500 students have participated in this competition. Approximate 50 students have registered themselves for the next round of this competition. First time Microsoft has organized this kind of event at the college level. The event was a big success.

### 21st National Children's Science Congress (NCSC)-2013 :

**Dr. R.C. Sharma** Professor, Applied Sciences & Humanities, **Dronacharya College of Engineering Gurgaon** was invited as Evaluator/Judge in the 21<sup>st</sup> National Children's Science Congress- a program of National Council for Science & Technology Communication, Department of Science and Technology, Government of India organized at **Maharshi Markandeshwar University, Mullana, Ambala** (Haryana) on **December 07-08, 2013**.

The focal theme for NCSC-2013 was "Energy: Explore, Harness and Conserve". Ninety seven teams of Child Scientists (Senior Division Urban, Senior Division Rural, Junior Division Urban and Junior Division Rural) presented their projects on above said focal theme and related sub-themes. The program was concluded by **Sh. Ved Priya**, President Haryana Vigyan Manch.

## The India Telecom-2013:

**Prof. (Dr.) H.S. Dua**, Head, Department of ECE attended conference cum exhibition on "**The India- Telcom 2013**" organized at Vigyan Bhavan following the theme "**Internet Of People To Internet Of Things Future Of Communication**" from **5th to 7th December 2013**.

## Award for "Mentor of The Year":

**Ms. Chesta Aggarwal**, Asst. Professor, CSE Department of **Dronacharya College of Engineering, Gurgaon** was awarded as Tech-Hunt- "**MENTOR OF THE YEAR-2013**". TECHUNT 2013 a National hunt for "India's Student Entrepreneur of the Year" and workshop series was jointly hosted by Nurture Talent Academy and Computer Society of India at IIT Bombay on **6<sup>th</sup> December 2013**.

## ISTE Workshop on "Engineering Mechanics":

Mechanical Engineering Department of **Dronacharya College of Engineering, Gurgaon** successfully organized the ISTE workshop on "Engineering Mechanics" from **26th November to December 6th, 2013** under the National Mission on Education through ICT (MHRD), Government of India, New Delhi. During the workshop the relevant topics like Free Body Diagram, Centre of Gravity, Moment of Inertia, Trusses(2D), Frames (2D and 3D), Static-Kinematic-Dynamic analysis of bodies, Theory of Vibrations etc were discussed. The workshop coordinated by Prof Mandar Inamdar and Prof Sauvik Baneerjee, Faculty members of IIT, Bombay.



**Participants during the final Quiz**



**HOD (ME) with Hon'ble Principal during Valedictory Function**

## National Conference on "NVEQF" & "EETP" :

On **26th November 2013**, **Mrs. Dimple Saproo**, **Mr. Chandra Shekhar Singh** from ECE Deptt. and **Mr. Chain Singh**, **Mr. Ashish Kr. Luhach** from IT Deptt. Of **Dronacharya College of Engineering, Gurgaon** attended Conferences on National Vocational Education Qualification Framework (NVEQF) and Employability Enhancement Training Program (EETP).

## Indo-French CIMPA Research School(CRS) :

**Dr. Binay Kumar**, Assistant Professor, Applied Sciences & Humanities Department of **Dronacharya College of Engineering, Gurgaon** attended the Indo-French CIMPA research school (CRS) on Generalized Nash Equilibrium Problems, Bilevel Programming and MPEC held at Delhi University, Delhi from **25th November to 6th December 2013**.

The main aim of the school was to present the modern tools of variational analysis and optimization used to analyze these three class of difficult problems. Applications and numerical approaches will play a central role in the proposed developments. The experts across the globe **Mr. Didier Aussel** (University of Perpignan, France), **Mr. Jonathan Borwein** (University of Newcastle, Australia), **Mr. Joydeep Dutta** (IIT Kanpur, India), **Mr. Francisco Facchinei** (Univ. Sapienza, Roma, Italy), **Mr. Ren Henrion** (Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany) and **Mr. Alejandro Jofre** (CMM, Santiago, Chile) etc. presented their views on Numerical analysis of Generalized Nash equilibrium, Dual optimality conditions for MPECs, GNE/MPEC in Electricity Markets etc.





### Alumni Leadership Masterclass :

**Mrs. Chitra Kaul**, Associate Professor, **Computer Science & Engineering Department** of **Dronacharya College of Engineering, Gurgaon** attended a seminar on 'Alumni Leadership Masterclass' organized by Saviance Technologies Pvt Ltd. at India Habitat Centre, New Delhi on **23rd November 2013**.

### Industrial Visit to M/s Maruti Suzuki India Ltd. Gurgaon :

An industrial visit to M/s Maruti Suzuki India Ltd (MSL) for 40 students of Mechanical Engineering Department was arranged on **9<sup>th</sup> Nov, 13**. The Faculty members of Mechanical Engineering Department **Prof. Vijay Wakhlu**, **Mr. Lokesh Khuranna** and **Mr. Kuldeep Sangwan** accompanied the students.

**Mr. V.K. Malhotra**, Manager -Public Relations and **Mr. Baddam**, Manager-Development at Maruti Suzuki India Ltd. Demonstrated the process and applications of Press Shop, Welding Shop, Assembly Shop, **Spot Fixing Jigs And Robots**, etc.

### Virtual Lab Demostration on Mechanical Vibration Labs :

**Virtual Lab Demonstration on "Mechanical Vibration Labs"** was conducted by **Department of Mechanical Engineering, DCE, Gurgaon**, on **22<sup>nd</sup> October, 2013**. The demonstration of Lab was coordinated and conducted by **Mr. Vikas Sahu**, Assistant Professor and **Mr. Deepak Monga**, Assistant Professor. Online and off-line experiments were performed on Mechanical Vibration Labs. Over 110 students were trained on Virtual Lab on Mechanical Vibration Labs.



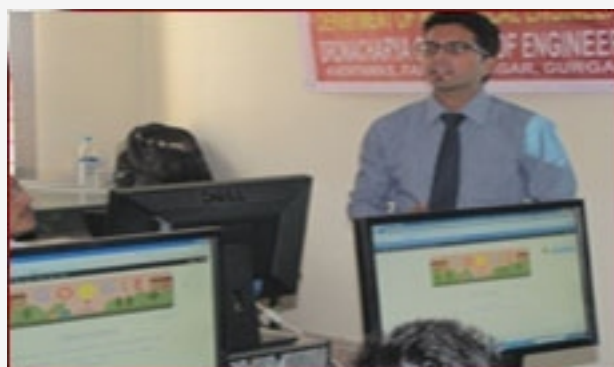
**The Principal visiting the Virtual lab**



**HOD (ME) during the demonstration**



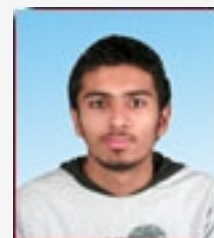
**Students participating in the program**



**Mr. Deepak Monga, the coordinator of Virtual lab during the workshop**

### Student's Viewpoint :

I am proud to be a student of the Mechanical Engineering Department of **DCE, Gurgaon**. I am sincerely thankful to my HOD and teaching staff for helping me to propel in the right path of my journey in making technical projects, writing research papers etc.



**Prateek Wadhwa  
(Roll No. 13323)**

**The students' life is like a river. We cannot touch the same water twice, because the flow that has passed will never pass again.**

Mechanical Engineering Department has molded many towards attaining better opportunities in technology. I hope I am also going to be one among them. I am grateful to the HOD and faculty of ME Department for their guidance and assistance provided in paper presentation and other activities.



**Pushkar Malhotra  
(Roll No.13327)**

**Always be sincere to yourself, never lose hope, never fear, overcome all and persevere, be the best to show it anywhere and anytime.**

I would like to thank HOD and Faculty members of Mechanical Engineering Department for organizing various technical events which eventually helped us in increasing my wisdom and maturity and helped me to sharpen my technical knowledge.



**Saurabh Khurana  
(Roll No.13342)**