



# Dronacharya College of Engineering

## ISSUE

*Vol viii issue LXXXVI*

## Mechanical Engineering

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### From Editor's Desk :

Good education encompasses instilling moral, aesthetic, athletic and intellectual values in the citizens of tomorrow. We strongly believe in academic excellence and do not compromise on teaching standards or discipline. Hi-tech laboratories, spacious workshops, sprawling green campus, library, wi-fi access and many more facilities provide a vibrant and stimulating environment for teaching, learning and research.



**Dronacharya College of Engineering, Gurgaon** strives for providing its progeny with a distinct and unique combination of academic excellence and professional growth. In tune with our objective of imparting quality technical education, no efforts are spared to make our students into engineers who are competent, confident and are willing to contribute to the progress and development of both industry and society.

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



## From HOD's Desk :

**Dronacharya College of Engineering, Gurgaon** is one of the leading institutions in Haryana providing technical education to achieve academic excellence. Mechanical Engineering Department is also striving towards this goal with its infrastructure and competent teaching faculty. The department plays an important role by adopting new teaching-learning methodology with practical training.

The Department has distinguished and dedicated faculty which emphasis on quality education through different ways like project guidance, industrial training and industrial visit to become proficient technocrats whose skills and innovative ideas can make them understand the complex, fast and ever changing industry. We encourage our faculty and students to participate in various seminars/conferences/ workshops to have information about the latest technology.

I wish all the faculty members and students a great academic year.



*Head of Department, Prof. Vijay Wakhlu*

## Workshops :

### **Workshop on PCB Designing Using Eagle Cadsoft :**

Electronics and Communication Engineering Department of Dronacharya College of Engineering, Gurgaon organized a workshop on PCB designing using Eagle Cadsoft in association with UV Soft technologies and Indian Institute of Technology Varanasi from **7<sup>th</sup> to 8<sup>th</sup> Aug 2014**. Thirty six students of ECE and EE department attended the workshop. The workshop helped them in designing PCB for their projects.

### **Teacher Training Workshop on e-Yantra Lab Set UP Initiative (eSI) :**

Four faculty members **Mr. Chandra Shekhar Singh, Mr. Sumit Kumar, Mr. Ashish kumar** and **Ms. Sushmita Samanta** from ECE department attended a two day teachers training workshop from **4<sup>th</sup> to 5<sup>th</sup> Aug 2014** at MGM COET Noida organized by IIT Bombay under the e-Yantra lab set up (eSI) initiative sponsored by MHRD, Govt. of India, New Delhi. The aim was to train the teachers in Embedded System and Robotics and also setting up Robotics lab with the funds provided by institute. Our college has already submitted the letter of intent (LOI) for setting up of lab.

### **Product Demo: Embedded Hardware & Software Technologies :**

On **2<sup>nd</sup> August, 2014**, **Mr. K.K. Singh**, Associate Professor from Electronics & Computer Engineering department of **Dronacharya College of Engineering, Gurgaon** attended a workshop on Embedded Hardware & Software Technologies organized at Binary Semantics Ltd. Technology Center, Gurgaon.

The workshop showcased all the Hardware, Software and Product Technologies including Embedded Instruments, Embedded Control Systems, Vehicle Tracking Systems, Building Management Systems. Xinoe [eXperienced International Network Of Engineers] Systems is jointly operated by Binary Semantics Limited, an Information Technology R&D Company, and Inxee Systems, an Embedded / VLSI Technology R&D Company. Xinoe Systems is equipped with a state-of-the-art lab, training facility, and workstations with all the tools required for hands-on experience of cutting edge VLSI - ASIC/FPGA and Embedded technologies.

The specialties of the workshop were Embedded Systems (Hardware + Software) in Wireless & Wired Communication, Storage, Industrial Automation, Medical & Healthcare, Media & Entertainment, Automotive & Defense applications.



**Mr. K.K. Singh during the event**



**Speakers and participants during the event**



**Respected Dignitaries during the event**

#### **4Xinoe Techway Program:**

**Mrs. Kshitija Pol**, Associate Professor from Computer Science Engineering Department attended a Xinoe Techway Program on Embedded Hardware & Software Technologies at Xinoe, Electronic City Gurgaon on **2<sup>nd</sup> Aug 2014**.

The workshop showcased all the Hardware, Software and Product Technologies including Embedded Instruments, Embedded Control Systems, Vehicle Tracking Systems, Building Management Systems. Xinoe [eXperienced International Network of Engineers] Systems is jointly operated by Binary Semantics Limited, an Information Technology R&D Company.



**Mr. Srinath Nadurupati has given demo on Embedded System**



**Mrs. Kshitija Pol, Assistant Professor, CSE Application of Department, at the venue**

## ICT Based STC on Open Source Technologies :

ICT based programs provides digital based learning material for professionals. From past 6 months, **Dronacharya College of Engineering Gurgaon** has been constantly taking advantage of the various ICT programs conducted by NITTTR Chandigarh. The programs were successfully completed and continuing with the same, **Prof. Vishal Bharti**, HOD, Computer Science & Engineering Department organized 6<sup>th</sup> program in a row for faculties of various departments. The five day program included keynote lectures from Director of Magma Research and Consultancy Pvt. Ltd., Ambala and CEO of U-Net Solutions. The program was held from **21<sup>st</sup> July 2014 to 25<sup>th</sup> July 2014**. The main focus of the workshop was on Open Source Technologies like Big Data, Hadoop, SAN/NAS etc. The program was a hit with 45 participants from DCE Gurgaon and the more than 150 participants from various colleges.



**Prof. (Dr.) M. N. Hussain and Prof. Vishal Bharti during Inauguration session**



**Participants attending workshop**

## Lecture Session on “Graph Theoretic Approach to Topology Control In Wireless Sensor Networks” :

On **15<sup>th</sup> July 2014** **Ms. Sarita** Assistant Professor from CSE Department of Dronacharya College of Engineering, Gurgaon, attended a lecture Session on “Graph Theoretic approach to Topology Control in Wireless Sensor Networks” at Department of Mathematics, IIT Delhi.

In this session **Mr. Pushparaj Shetty D**, Research Scholar, IIT Delhi provided an alternate NP-hard proof for MP2CS (minimum power two-connected sub- graph) problem. The MP2CS problem is proved to be NP-hard. He proposed a heuristics for MP2CS problem and a special case of MP2CS problem called the minimum power k-backbone 2-connected sub-graph (MPkB2CS) problem.



**Dr. B. S. Panda (HOD, Department of Mathematics, IIT-D), Prof. Naveen Garg (IIT-D, CSE Department), Prof. Subhas C. Nandy (Indian Statistical Institute Kolkata (ISI) at the Session**

## Two Week ISTE Workshop on “Cyber Security” Organized by IIT Bombay :

National Mission on Education through Information and Communication Technology (MHRD, Govt. of India) conducted a two week workshop on Cyber Security at **Dronacharya College of Engineering, Gurgaon** from **July 10<sup>th</sup> to 20<sup>th</sup>, 2014**.



The two week workshop was organized at the various remote centers by the workshop coordinator. The workshop at the remote centre **Dronacharya College of Engineering, Remote Center Id: 1299** was coordinated by the Remote Center Coordinator, **Dr. Jitender Kumar**, Workshop Coordinator, **Mr. Ashish Kr. Luhach**. All the teaching and non-teaching members of the Information Technology and Computer Science Department have attended the workshop.



***IIT Bombay faculty members addressing the workshop audience***



***Participants at the workshop***



***Participants at lab session in the workshop***

## **Faculty Deveopment Programme for Effective Teaching (STC) Organized by Center for Educational Technology, IIT Kharagpur**

**Mr. Ashok Kumar**, Associate Professor from Applied Sciences & Humanities Department of Dronacharya College of Engineering, Gurgaon attended a three day short term course (STC) on "Faculty Development Programme for Effective Teaching" from **10<sup>th</sup> to 12<sup>th</sup> July 2014**, organized by Centre for Educational Technology, IIT Kharagpur.

The aim of this Short Term Course was to design and develop learner-centric curricula, which is suitable today for outcome based learning through a specially designed web tool. A team of experts, trainers and a wide section of faculty helped the participants to enhance their teaching-learning pedagogy with hands on training to create the modified version of teaching documents. The documents were primarily meant for students to enhance their ability, skills and attitude towards the demonstration of each course and provide them a mode to find the required learning resources. On the other hand this pedagogy will also provide them with an opportunity of self-assessment and promote self as well as group learning.

The FDP was very much useful as it provided an overview as well as hands on practice of different technological tools applied in teaching-learning.



***Prof. S.K.Som delivering a talk on "What I consider as good teaching"***



***Ashok Kumar, Associate Professor (Mathematics) Dronacharya College of Engineering Farrukhnagar, Gurgaon along with Course coordinator Prof. Bani Bhattacharya during the FDP at IIT Kharagpur***



## **Adobe Creative Cloud 2014 :**

On **8<sup>th</sup> July 2014**, **Mr. Amar Saraswat**, of Computer Science & Engineering Department of **Dronacharya College of Engineering, Gurgaon** attended a workshop organized by Adobe at Eros Hotel, Nehru Place, New Delhi.

The workshop showcased about the Adobe Creative Suite, which is the promise of innovation to the next level with brand new versions of 14 desktop apps, a new set of mobile apps, and innovative services that keeps creative tools, assets, and community connected. The speaker discussed that around hundreds of improvements have been added to Creative Cloud since CS6, including major performance enhancements and countless refinements to user's favourite tools that make everyday tasks easier and faster. By constantly innovating, Creative Cloud enables users to capitalize on the latest technologies like 3D printing, 4K and Ultra HD video, EPUB fixed layout, and the newest web standards. Plus, Creative Cloud dramatically simplifies all the basic needs.

## Lectures :

### Lecture on QIP by IIT Roorkee :

**Mr. Nitesh Kumar, Associate Professor** and **Dr. Binay Kumar, Assistant Professor** from the **Department of Applied Sciences & Humanities of DCE Gurgaon**, attended a Quality Improvement Programme (QIP) on **"Mathematical and Computational Finance with some Engineering Applications"** was organized by **IIT Roorkee**, Uttarakhand from **7<sup>th</sup> to 11<sup>th</sup> July 2014**.

The QIP session was comprehensive & informative, which helped us to enhance & update our knowledge on the Mathematical and Computational Finance. The QIP encompassed the lectures on Applications of Mathematical and Computational Finance. The topic of lecture was Fixed Income, Derivatives and its applications, Market structure, Portfolio analysis and computer Lab on Excel.

The QIP was inaugurated on **7<sup>th</sup> July'2014** by **Dr. Rama Bhargava** (QIP-Coordinator) and the Program Coordinator **Dr. Aditi Gangopadhyay** welcomed all the experts & participants.

The session was started with the lecture of **Dr. Sunil Bowry**. He talked about Market structure and its effect in business, investment opportunity, government securities, equities, financial market, stock exchanges, forwards and futures contracts, financial derivatives, hedging with futures, binomial option pricing model and calibrating the model to the real world.

Another expert of Financial Mathematics **Dr. Amber Habib** discussed about Fixed Income, arbitrage, types of interest, time value of money, bonds, spot and forward rates, fisher weil duration, geometrical bronian motion and delta hedging.

**Mr. Ziaur Rehman** conducted computer lab on Excel. He gave valuable information on practical knowledge related financial application such as Bond, duration, duration vs maturity graph and immunization.

**The program was very much useful and informative.**



### Two Week ISTE Workshop on "Computer Networking" :

**Dronacharya College of Engineering, Gurgaon** organized a workshop on "Computer Networking" from **June 30th, 2014 to July 5th, 2014**. The workshop was conducted by National Mission on Education through ICT (MHRD, Govt. of India) an important initiative taken by IIT Bombay to work with Engineering Colleges with a mission to enhance the teaching skills of faculty members across India. It was coordinated by the Remote Center Coordinator, Dr. Jitender Kumar, Workshop Coordinator, **Mr. Hansraj Yadav**.

The objective of this workshop was to impart knowledge of Computer Networking on a larger scale and at a faster rate; to empower students and teachers in engineering colleges on a large scale; to encourage teachers to contribute learning material and to publish the contents in open source on the portal.





**Participants Attending the workshop**



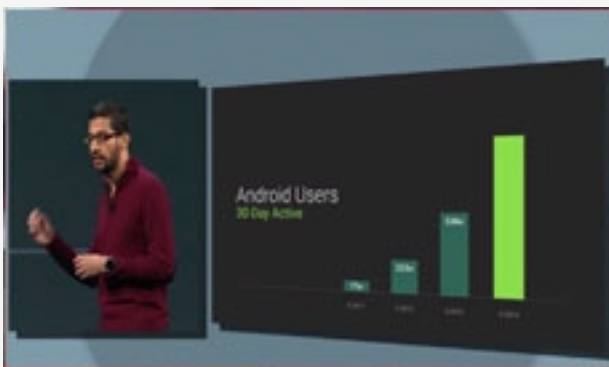
**Prof. Vishal Bharti . HOD CSE receiving certificate from Dr. M.N. Hussain, Principal , DCE Gurgaon**

## Report on Conference on Google I/O Extended 2014:

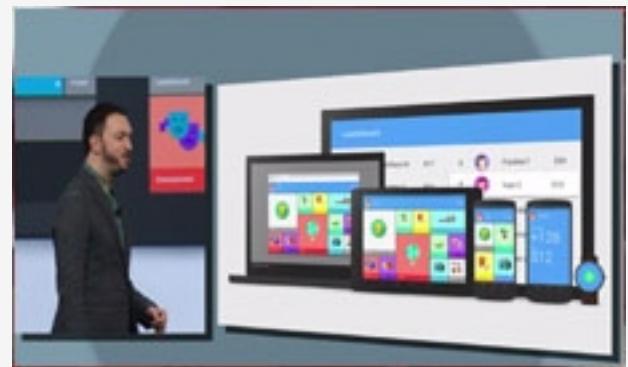
**Anshul Patro** (Roll No. 14605), student of VII Sem, **Electronics and Computer Engineering Department of Dronacharya College of Engineering, Gurgaon** attended a live conference on **GOOGLE I/O 2014 VIEWING PARTY** at Investopad, Sector-32, Gurgaon organized by **Google Developer Group, New Delhi** on **26th June 2014**.

The event started up with enrolling of registrations and dinner at the venue. Then there was a short description by Sakshi Dewan, Anubha Balani, Shrey Malhotra (Organizers at GDG New Delhi). The live event started at 09:00 PDT (Pacific Daylight Time). In total the viewing party was organized at 597 locations all over the globe and about 1 million people joining in.

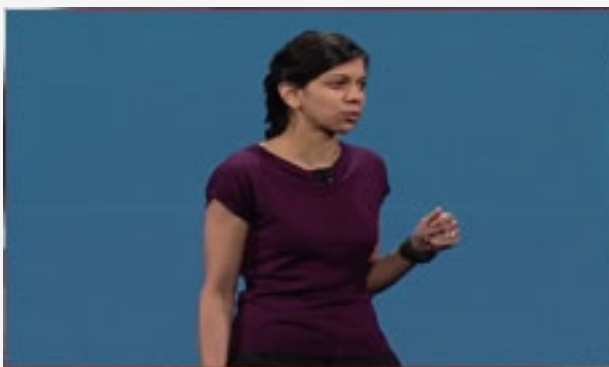
The two products that were focused at Google I/O 14 were **ANDROID** and **CHROME**. The basic development of Android applications was taught to student through videos. The event was concluded with quiz and valedictory.



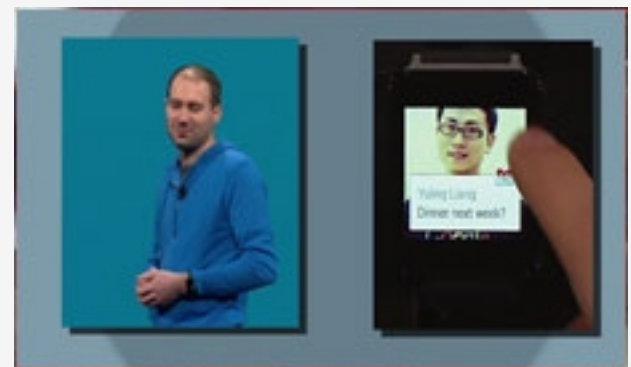
**Mr. Sundar Pichai, Senior Vice President (Android, Chrome & Apps) Talking about Android Market**



**Mr. Matias Duarte introducing pixels free interface to run in the same way with all devices**



**Ms. Avni Shah, Director of Product Development, CHROME**



**Mr. DAVID SINGLETON, Director of Engineering Android introducing Gear, a device to wear on wrist which is sync with your ANDROID PHONE**



## The International Conference on Digital Information, Networking, & Wireless Communication (DINWC 2014) held at VSB-Technical University of Ostrava, Czech Republic :



**Ravi Ahuja (Roll no. 14620)** from **Electronics and Computer Engineering Department** of Dronacharya College of Engineering, Gurgaon has been selected as the reviewer in **The International Conference on Digital Information, Networking, and Wireless Communications (DINWC2014)** held at **VSB-Technical University of Ostrava, Czech Republic** on **June 24th-26th, 2014**.

## Faculty Development Programme (FDP) on “Embedded System & Advanced Robotics” :

A total 57 faculty members from various departments of Dronacharya College of Engineering, Gurgaon attended 5 days Faculty Development Programming (FDP) on “ EMBEDDED SYSTEM AND ADVANCED ROBOTICS ” from **23<sup>rd</sup>** to **27<sup>th</sup> June 2014**.

The FDP covered the various applications of Robotics such as Line Follower, Joystick control. Each participant showed a lot of interest by configuring robot with their own hands using microcontroller ATMEGA 328. The faculty practically worked with Blue tooth technology, implemented 3 Axis Accelerometer and used Raspberry Pi as a computer.



**Mr. Kelvin Lewis giving hands on session on Robotics**



**Faculty members of various Departments attending the workshop**

## ICT Based STC on Open Source Technologies :

Computer Science Engineering Department organized an ICT programme conducted by NITTTR Chandigarh. The 5 day programme included keynote lectures from eminent and distinguished speakers. The program was held from **23<sup>rd</sup>** to **27<sup>th</sup> June 2014**. It was focused on “NATIONAL SKILLS QUALIFICATION FRAMEWORK (NQSF) and other Skill Development Schemes”. The programme was successful with 34 participants from **DCE Gurgaon** and more than 200 participants from various colleges also participated.



**Prof. (Dr.) M.N. Hussain, Hon'ble Principal, DCE and Prof. Vishal Bharti, Local Coordinator & HOD CSE during workshop**



**Prof. (Dr.) M.P. Poonia, Director, NITTTR during Inaugural Session**

## Summer Faculty Research Fellow-2014 at IIT Delhi :

**Two faculty members Ms. Meenu Gupta and Ms. Sarita** from Computer Science Engineering (CSE) Department of Dronacharya College of Engineering, Gurgaon attended a two month Summer Faculty Research Fellow Programme -2014 from **May 15th, 2014 to 16th July, 2014** at IIT Delhi.

The main objective of this programme was to help in inducting and inculcating research culture among the faculty of engineering and science institutes outside IIT system. A number of faculty members across the nation attended the Summer Faculty Research Fellowship Program and got the opportunity to explore their research work under the guidance of faculty members of IIT Delhi. The visiting faculty fellows were stayed at IIT Delhi during the summer and work with faculty mentor who is a regular faculty of IIT Delhi. This was a great opportunity for the faculty fellow to pushup their PhD research work under the guidance of an active research faculty mentor of IIT Delhi.



**Ms. Sarita with her research fellow at IIT Delhi**



**Ms. Meenu Gupta with Prof. Raghunath**

## Student Updates :

### Post College Representative of E-Cell, IIT Bombay

**Aman Sharma (Roll No. 14603)** from the **Electronics and Computer Engineering Department** of **Dronacharya College of Engineering, Gurgaon** is selected as the **Post College Representative of E-Cell, IIT Bombay** for the **Academic Year 2014-15**. He made it to the top from the thousands of applications that they received this year and it is pleased to inform you that I have been selected for the same.



The key responsibilities of the Post College Representative of E-Cell, IIT Bombay are to form and manage an E-cell community in the campus. Each CR is required to form a team from his/her college to participate in NEC. Our CR has to make sure that this team actively performs all the tasks in NEC which will help to establish an E-Cell in your college. In case an E-Cell already exists in your college CR is required to send the contact details of the head of that E-cell to us and encourage them to participate in NEC.

### Selection as Microsoft Student Associate:

**Ayushi Mishra (Roll No.15018)**, a student of Computer Science and Engineering Department of Dronacharya College of Engineering, Gurgaon has been selected as The Microsoft Student Associate in Microsoft Student Program (MSP) that provides a wonderful opportunity to act as a bridge between Microsoft and their universities. She was the only selected girl candidate from Haryana State in this program.

The selection was based on academic performance, creativity and innovation and interview with the personnel wherein they also observed the social bent of mind of the candidates.

[illegible]

### ***All India MSA List***



**MSA Id- Card of Ayushi Mishra**

### Student's Viewpoint:

I am glad to be associated with Dept of Mechanical Engg. I am thankful to the HOD, teaching and non-teaching staff for their encouragement and support through which we are heading towards the path of success. The course was a good balance of actual teaching from day one. This allows one to grow confidence and to improve the abilities as a professional.

***Students have to come up with out of the box ideas to make History.***

Rahul Patni  
RollNo .15363