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### FUTURE EVENTS

- ❖ March 7, 2018 – JYOTIRGAMAYA 2018: Science Show
- ❖ March 24, 2018 – TECHELONE'18: Technical Fest of Chitkara University, H.P.
- ❖ April 14, 2018 – Faculty Workshop on CPLD Technology

### EDITORIAL BOARD

- ❖ Dr. Varinder S. Kanwar, VC (Chairman)
- ❖ Mr. Sagar Juneja, ECE (Member Secretary)
- ❖ Dr. Neha Kishore, CSE (Member)
- ❖ Dr. C Prakasam, CE (Member)
- ❖ Dr. Sushil Kumar, Applied Sciences (Member)

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NAAC**

### EDITORIAL

#### Importance of IPR in Technology & Innovation

IPR plays an important role in the economic growth and in today's modern world Information Technology (IT), Communication and Electronics are some of the most innovative, dynamic and highly advanced segments that drive economic growth. IPR thus plays an important role in value creation in these technologically advanced segments thereby fostering innovation. Today there is a dire need for the technology businesses, star-ups, and academic institutions to understand and become aware of the key issues & recent developments in IPR related to technology segments.

Chitkara University, Himachal Pradesh is been actively involved in IPR activities from last three years now. With 36 patents filed in Indian Patent Office (IPO) and with DST sponsored IPR cell set-up by State Council of Science Technology & Environment (SCSTE), H.P. at our university campus, Chitkara University H.P. is providing unique opportunity to faculty, researchers and students alike to think innovation and to come up with innovative technological ideas to solve problems around us.

Very recently we conducted an IPR workshop with support and sponsorship from Government of India. You will find more details about the IPR workshop in the proceedings sections of this issue.



In the last semester during July–December 2017 our faculty and staff have published various books, attended international conferences & won awards, guided students' projects to compete in national level competitions, submitted 10 research project proposals to DST & other funding institutions, filed patents, organized workshops & expert talks in the university campus and attended various courses & training programs at different places. All these activities and events are covered in detail in this issue. You will also find information about research publications by our faculty, staff and research scholars in various prominent journals & international conferences during the last semester in this issue.

We look forward to hearing from our readers. If you have any feedback, please do share with us.

#### Mr. Sagar Juneja

Coordinator IPR Cell  
Associate Professor, ECE  
Chitkara University, Himachal Pradesh

Chitkara University, Himachal Pradesh is accredited by National Assessment and Accreditation Council (NAAC) - an autonomous body established by UGC.



## TOP STORIES

### Books Publication by Faculty of CE Department

Dr. Varinder S. Kanwar – Professor, Civil Engineering (CE) Department has published a book entitled “Health Monitoring of RCC Buildings using Vibration Measurements”, Dr. Uma Malik - Professor, CE has published a book entitled “Challenges of Managing Storm Water in an Urbanized Watershed of India” and Dr. C. Prakasam – Associate Professor, CE has published a book entitled “Comparative Drainage Morphometric Study using Geospatial Technology”. All the three books are published by Lambert Academic Publishing, Germany with respective ISBN: 978-620-2-01204-1, 978-620-2-02431-0 & 978-3-330-34217-0.

### GOI sponsored IPR Workshop Organized

Chitkara University, H.P. organized a two-day IPR workshop on “Understanding the Importance of IPR Issues in Information Technology, Communication and Electronics Segment” on Sep 15-16, 2017. The workshop was organized with sponsorship of INR 2 Lacs from Ministry of Electronics & Information Technology (MeitY), GOI and was attended by over 100 participants from different engineering institutions, industry and start-ups. Dr. A.K. Garg – Director, Innovation and IPR Division, MeitY was the Chief Guest of the inauguration. Mr. Kunal Satyarthi, IFS – Joint Member Secretary, SCSTE, H.P. was the Chief Guest of the valedictory. 10 eminent speakers from the world of IPR including patent attorneys, industry professionals, and scientists delivered their lectures during the workshop. An online IPR awareness quiz was also conducted on PAMS App developed by CDAC-Pune and top 3 winners were rewarded. The workshop was coordinated by Mr. Sagar Juneja – Associate Professor, Department of Electronics & Communication (ECE), Chitkara University, H.P.



### Summer Internship Program on Embedded System Design

Department of Electronics & Communication (ECE), Chitkara University, H.P. organized a one-month summer internship program on “Embedded System Design using Texas Instruments (TI) MSP430 platform” in collaboration with TI-CEPD@NSIT, New Delhi and with support from TI during July 3-28, 2017. Prof. Dhananjay V. Gadre - NSIT, New Delhi was the resource person of the program that was attended by 40 third year ECE students. It was a complete hands-on program where students learned and implemented the basics of electronic design, layout design, PCB fabrication, learnt the architecture of MSP430 and built embedded system projects. The program was concluded on July 28 in a wonderful event that featured demonstration of 21 projects followed by a valedictory function. It was attended by Dr. Niyati Chitkara (Principal, Chitkara International School), Mr. Vaibhav Ostwal (Project Manager, TI) and Prof. Dhananjay V Gadre, Dr. Varinder S. Kanwar (Registrar, Chitkara University, H.P.). The program was coordinated by Ms. Lipika Gupta – HoD and Mr. Sagar Juneja – Associate Professor, ECE.



### CSE Faculty Member Attended an International Symposium in Thailand

Ms. Ankita Tuteja - Assistant Professor, Department of Computer Science & Engineering (CSE), Chitkara University, H.P. attended a symposium entitled “8th University Scholars Leadership Symposium” held at United Nations Conference Centre in Bangkok, Thailand during August 1-7, 2017. The theme of the symposium was “Building LIFE, Giving HOPE” and it was attended by several hundred emerging world leaders from the United Nations Member States. The focus of the event was on the social development of young leaders so that they are motivated to use their knowledge and leadership skills to impact the communities in need and bring social change.



### Earn While You Learn – An Internship Program by CEED

On September 1, 2017 a student internship fair “Earn While You Learn” was organized for engineering students of Chitkara University H.P. by the University’s Centre for Entrepreneurship Education and Development (CEED). The objective of the fair was to provide students with part time job experience along with their academics. More than 150 students participated in the fair where 6 dynamic start-ups namely Chandigarh Metro, Yellow Cursor, SDFine Arts, Kitty Bee, XOR Labs Pvt Ltd., Logolize considered them for internship positions. 7 students got selected in the fair. The program was coordinated by Dr. Neha Kishore – Associate Professor, CSE.



### Best Paper & Poster Awards for AS & CE Faculty Members

Dr. Rohit Verma - Associate Professor, Department of Applied Sciences (AS) was bestowed Best Paper Award in Physical Sciences Section for his paper entitled “Revisiting Texture Zero Ansatz For Yukawa Sector In Standard Model”, submitted to 2nd Himachal Pradesh Science Congress 2017-18 organized by Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE) during November 20-21, 2017. The theme of the conference was Science and Technology for Sustainable Livelihood in Indian Himalayan Region. In the same conference Dr. Ashok Kumar - Associate Professor, AS received Best Poster Award in Mathematical and Computer Sciences Section for his paper entitled “Analysis of Health Conditions using C4.5 Algorithm” and Ms. Aisha Sharma - Assistant Professor and Dr. Uma Malik – Professor, CE received Best Poster Award for their research paper entitled “Hydrological and Hydraulic Models Review for Rainfall-runoff Simulation”.





## FACULTY ACHIEVEMENTS & CONTRIBUTIONS

### CE Faculty Member Invited as Resource Person

Dr. Varinder S. Kanwar – Professor, CE was invited as resource person in conference entitled “Educational Conclave on Emerging Trends in Technical Education” held at NITTR, Chandigarh during September 6-7, 2017. The conference was jointly hosted by Federation of Indian Chambers of Commerce and Industry (FICCI) and NITTR, Chandigarh. He delivered a talk on curriculum design and changes required in teaching, learning and evaluation methods.



### Project Team from ECE in Finals of AICTE Awards

A team from Chitkara University, H.P. comprising of Goyaam Jain, Tanuj Mangla (students, ECE, third year) under the guidance of Mr. Sagar Juneja – Associate Professor, ECE was shortlisted to participate in the final round of 1st AICTE Chhatra Vishwakarma Award 2017 held at AICTE headquarters in New Delhi on Sep 19, 2017. The contest received over 900 nominations from engineering institutions across India of which only 56 teams were selected to compete in final round.



### ISTE Best Teacher and Best Student Award

Dr. Neha Kishore – Associate Professor, CSE received ISTE Best Teacher Award for the year 2017 at ISTE Section Annual Faculty Convention 2017 held on November 2, 2017. In the same event Pratyaksh Joshi, third year student of ECE department won ISTE Best Student Award 2017.



### ECE Faculty Presented a Paper in a Conference in Malaysia

Mr. Sagar Juneja – Associate Professor, ECE, Chitkara University, H.P. presented a paper entitled “Strategic Partnership with Industry to Strengthen Core Competency in Electronics – Need, Opportunities, Challenges and Success Stories” at 7th World Engineering Education Forum (WEEF) 2017 held in Kuala Lumpur, Malaysia during November 13-16, 2017. Dr. Rajnish Sharma (Dean Research, Chitkara University) and Dr. Archana Mantri (Pro-VC, CURIN, Chitkara University) are co-authors of the paper.



### Two Project Teams from ECE in Quarterfinals of TI Contest

ECE department of Chitkara University H.P. submitted 6 project entries under the guidance of Mr. Sagar Juneja – Associate Professor, ECE to Texas Instruments Innovation Challenge 2017. The contest received over 5000 entries from 965 engineering institutions of which only 510 are selected for participation in quarterfinals round. From Chitkara University, H.P. following two entries are selected that are currently competing in quarterfinals round – E-Scoop by Gangesh Kumar & Arun

Kumar and Smart Shoes for Blind by Ajay Rajan, Abhishek Garg and Hitesh Mittal.

### Appreciation for CE Faculty Member from DST, GOI

Dr C. Prakasam - Associate Professor, CE received a letter of appreciation from Department of Science & Technology (DST), GOI in August 2017 for his efforts in coordinating two 21-day training programs on Geospatial Technologies (2015 summer & 2016 winter school). The 2016 winter school was evaluated by DST and was awarded a score of 5.8 on a scale of 6.

### Research Projects Submitted by CE Faculty Members

- ❖ Dr. Varinder S. Kanwar – Professor CE, Dr. B. Nagarajan - IIT Kanpur & Mr. Kalit Bhardwaj - SCST&E H.P. jointly submitted research proposal “Health Monitoring of Brick Masonry Structure using Vibration Measurement” to DST, New Delhi with a total cost of INR 103.2 Lacs.
- ❖ Dr. Varinder S. Kanwar & Mr. Abhishek Kanoungo - Assistant Professor, CE submitted a research proposal “Use of Industry Sludge Containing Calcium Carbonate for Manufacturing Hard Grade Bitumen” with an estimate cost of INR 10 Lacs to Department of Environment, Science & Technology, H.P. (DEST-HP).
- ❖ Dr Uma Malik - Professor, CE submitted a research proposal “Measuring and Mapping the Interrelationships Between Land Use & Water Quality as a Means of Determining the Source, Transport & Fate of Pollutants in the Sukhna Choe Catchment, Chandigarh”. The proposal is submitted to DST, with cost of INR 30 lacs.
- ❖ Dr Uma Malik & Ms. Aisha Sharma - Assistant Professor, CE submitted a research proposal “Kattiwala Pond Renovation – Upliftment of Rural Area of H.P.” with an estimated cost of INR 9.63 Lacs to DEST-HP
- ❖ Chitkara University H.P. submitted a collaboration proposal to Ministry of Electronics & Information Technology, GOI under Digital India e-Governance fellowship Programme scheme. Authorized Contact official for this project is Dr. C. Prakasam, Associate Professor, CE.
- ❖ A project entitled “Surface Topography and Kinematics of Active Faulting in the Sub-Himalaya, close to Chandigarh: Implications to Infrastructure Development and Seismic Hazard for a Proposed Smart City” with estimated cost of INR 144 Lacs is submitted by Dr. C. Prakasam to Ministry of Earth Sciences (MoES).
- ❖ Dr C. Prakasam submitted a research proposal for (2018-2023) Federal Government and International Members of the USGS-NASA Landsat Science Team. The project that is entitled “Large Scale Site Suitability Mapping for Solar Energy Generation using Landsat 9 and ASTER DEM Model” is submitted to U.S. Geological Survey Earth Resources Observation & Science (EROS).
- ❖ Dr C. Prakasam & Ms. Monika Sharma - Assistant Professor, CE submitted a research proposal “Impact of Hydro Power Project on Environment: A Case Study of Beas River Basin in Himachal Pradesh, India for Assessing the Need of Minimum Ecological Flow in the Downstream – A GIS Approach” to DEST-HP with cost of INR 8 Lacs.
- ❖ Dr C. Prakasam, submitted proposals to DST, New Delhi for summer & winter School 2018. Estimated cost of project is 10 Lacs each.

### Research Project Submitted by ECE faculty member

Dr. Archana Mantri – Pro VC, CURIN, Mr. Sagar Juneja – Associate Professor ECE and Mr. Vishal Kumar - Ajuj Technology Pvt. Ltd. submitted a project entitled “Demand Side Energy Monitoring System” to DST with an estimated cost of INR 464 Lacs.



### EVENTS ORGANIZED

#### Two-day National Workshop on LaTeX jointly with ISTE

Department of Applied Sciences, Chitkara University H.P. in collaboration with ISTE, New Delhi conducted a national level workshop entitled "LaTeX: A Professional Tool for Thesis and Scientific Paper Writing" during June 30 – July 1, 2017. Dr. Gaurav Kumar - Founder Director, Magma Consultancy Pvt. Ltd. was the resource person of the workshop that was attended by around 40 research scholars and faculty members. It was aimed at making the participants aware about writing scientific documents using LaTeX and provided hands-on experience & facilitated participants to typeset their articles for submission in reputed research journals. The workshop was coordinated by Dr. Rohit Verma - Associate Professor, AS.



#### Expert Talks Organized by Department of CE

August 14, 2017 - Dr. B. Nagrajan - Professor, IIT Kanpur delivered a talk on topics including Geodesy, Satellite Altimetric & Gravimetric Studies, Earth Rotation & Polar Motion, Remote sensing, Topographical Surveying etc.



September 26, 2017 - Er. Narinder Sharma, Chief Engineer Retired from BBMB (Bhakra Beas Management Board) visited our campus and delivered a talk on Bhakra Nangal Dam, its creation, history and importance in today's world.

October 27, 2017 - Dr. Umesh Sharma - Associate Professor, CE, Punjab Engineering College, Chandigarh visited us and delivered a guest lecture on Highway Engineering Construction Practices.

Ms. Dipali Sharma - Assistant Professor, CE was the local coordinator for these expert talks.

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#### An Expert Talk on Client-side Technology

An engaging & informative talk on Client-side technology was organized by Chitkara University H.P. on August 31, 2017. More than 100 second and third year students from CSE department participated in the workshop that was conducted by Mr. Naveen - CEO & Co-Founder, Satshri Technologies Private Limited. Topics like front-end development through HTML, scope of HTML, CSS & JavaScript for front-end development, role of a better User Interface (UI) & User experience (UX) were discussed in the session. Mr. Shankar Aggarwal - Assistant Professor, CSE was the coordinator.

#### Conference Organized By CE Department

Department of Civil Engineering (CE), Chitkara University, H.P. in collaboration with NITTTR Chandigarh, PEC University of Technology, Chandigarh and I.K. Gujral Punjab Technical University, Chandigarh jointly organized a conference entitled "Educational Conclave on Emerging Trends in Technical Education" during September 8-9, 2017. FICCI was the industry partner. About hundred participants attended the conference.

#### Two One-Day Workshops on Industry Practices in Java

CSE department organized a workshop entitled "Industry Practices in Java" on September 23, 2017 and it was attended by about 30

students. The same workshop was repeated on October 28, 2017 for a different set of students. It was intended for broader academic community that seeks to explore the impact of Java in industry and academics. Mr. Shobhit Khandelwal - Senior Member, Technical Staff, Oracle (India) was the speaker who exposed the students to effective code writing with boundary cases. The workshop was coordinated by Mr. Girish Rao - Associate Professor, CSE.



#### Four-day Workshop on AutoDESK Revit

Department of CE organized AutoDesk Revit workshop during September 25-28, 2017 and it was attended by 75 CE students and 13 CE faculty members. The focus of the workshop was on BIM (Building Information Modelling) where students designed models on Revit software and learned to analyse report delivered by software. The workshop was delivered by Mr. Manas Chatterjee - Technical Director and Ms. Bhavna - Technical Manager in Civil/GIS, TIET, Gurgaon and was coordinated by Mr. Abhishek Kanoungo - Assistant Professor, CE.



#### Technovation 2K17 – A Two-day CE Technical Fest

CE department during September 27-28, 2017 organized a two-day technical fest that featured events like poster making competition, videography competition, workshop on Bentley bridge design, workshop on AutoDESK Revit software etc. Poster making & videography competitions were open to students of all departments of the University. Mr. Abhishek Kanoungo and Ms. Aisha Sharma - Assistant Professors, CE were the coordinators.



#### Startup Day 2017 - Business Idea Challenge

Startup Day 2017, a platform for the budding students innovators & entrepreneurs was organized on October 4, 2017 at the university campus and witnessed participation from around 100 students in Business Idea Challenge. Participating teams presented their business ideas to jury that was comprised of Mr. Raveen Walia, Sales & Marketing expert and Mr. Harish Goyal - General Manager, Digitech Software Solutions Pvt. Ltd. The event was organized by CEED and was coordinated by Dr. Neha Kishore - Associate Professor, CSE. CEED awarded cash prizes and offered working space to top three winning teams. Top three winning ideas were - Smart Solar Light System for Rural Areas of India; Generating and Storing Charge for Emergency Battery Backup in a System Installed in Shoes; and Car Security System.





### Four-day Workshop on MX Road

Department of CE organized a workshop on MX Road during October 23-26, 2017. The training was focussed on MX Road which is 3D road design software. The workshop was delivered by Mr. Sankalp Bhargaba from Bentley Systems, New Delhi and was attended by 106 students and 13 faculty members. It was coordinated by Mr. Abhishek Kanoung - Assistant Professor, CE.

### One Day Workshop on Quick Heal Technology

An informative workshop session was conducted by CSE department in collaboration with Quick Heal Academy on cyber threat and security measures on November 12, 2017. Various types of security threats were discussed by expert, Mr. Rahul Misra from Quick Heal ranging from Advanced Persistent Threats, Phishing, Trojans, Botnets, Ransomware, Distributed Denial of Service (DDoS), Wiper Attacks,

Intellectual Property Theft etc. The session was attended by about 80 CSE students. Ms. Ashima Malhotra - Assistant Professor, CSE was the coordinator.



### Edusat Distance Learning Centre, Chitkara University, H.P.

IIRS-ISRO, IIRS - Edusat Distance Learning Centre, Chitkara University, H.P. participated in 22nd to 28th programs on various themes and topics. 45 participants including students and faculty qualified the exam and received certification from IIRS-ISRO, Dehradun. These courses were coordinated by Dr. C. Prakasam - Associate Professor, CE.

## EVENTS ATTENDED

### CE Faculty Completed a Course on Remote Sensing

Ms. Aisha Sharma, Ms. Monika Sharma, Ms. Dipali Sharma and Mr. Akhil Shetty - Assistant Professors, CE have successfully qualified the "UAV Remote Sensing and Applications" course organised by Indian Institute of Remote Sensing, Dehradun during July 3-7, 2017.

### ECE Faculty Member Attended a Workshop on LabVIEW

Ms. Monika Parmar - Assistant Professor, ECE attended a one-day workshop on LabVIEW held at Hometel, Chandigarh on August 17, 2017. Data acquisition is very important in control, instrumentation, validation, verification etc. applications in electronics. LabVIEW tool from National Instruments(NI) can be very helpful in data acquisition. The workshop was delivered by Mr. Sandeep from NI.

### CE Faculty Participated in a Course on Design Thinking

Dr. Uma Malik - Professor and Mr. Akhil Shetty - Assistant Professor, CE participated in Design Thinking Course organized by IUCEE-EPCS and coordinated by CURIN at Chitkara University, Punjab. The course was spanned over 10 weeks and was conducted during August 25 - November 17, 2017.

### CE Faculty Member Attended the Sensitization Workshop on Promotion of Societal Schemes

Ms. Monika Sharma - Assistant Professor, CE attended a workshop entitled "Northern Regional Sensitization Workshop to Promote Societal Schemes: Focus-Science & Technology For Women" during September 8-9, 2017 at Hotel Holiday Home, Shimla. It organised by State Council for Science, Technology & Environment, H.P.

### ECE Faculty Members Attended FDP in CDAC Mohali

Ms. Monika Parmar - Assistant Professor, ECE attended a faculty development program (FDP) on Embedded Systems & IoT Applications held at CDAC Mohali during September 25-29, 2017. The workshop was conducted on CC3200 Wi-Fi Launchpad platform and covered hands-on exercises like HTTP web server experiment, serial communication, analog, digital communication, getting weather report from Yahoo server using Temboo etc.



### ECE Faculty Participated in National Conference

Ms. Anshu Sharma - Assistant Professor, ECE presented a poster entitled "Human Energy Harvesting" in 3rd ISSE National Conference 2017 held at Indian School of Business, Mohali during October 12-13, 2017. It was jointly organized by ISSE and Semiconductor Laboratory, Mohali. The theme of the conference was Complex Engineering Systems of National Importance - Current Trends & Future Perspective. In the same conference in one of the sessions (S-Cube), Ms. Harpreet Kaur - Assistant Professor, ECE and Mr. Ravinder Singh - M.E. Research Scholar, ECE presented their idea on "Bridge Cooling Strategy for Solar Panel".



### CE Students Won 2nd Prize in "Survey Hunt" Competition

A team of Civil Engineering students comprising of Samar Bagai, Saksham, Manish, Nishant Singh, Nikhil Pataku, Ashish Pathania, Abhishek Thakur, Ravinder Chaudhary, Anil, Yatin under the guidance of their faculty Ms. Dipali Sharma participated in "Survey Hunt" competition held during PEC FEST 2017 on October 27, 2017. The team competed against 16 other teams and won 2nd prize in the competition. Surveying is the most important aspect of any civil engineering project.

### CE Research Scholar Attended a Workshop on Art of Writing a Research Paper

Mr. R. Aravinth - JRF, CE attended a two-day workshop on "Art of Writing a Research Paper" organized by Chitkara Business school, Punjab on November 11-12, 2017. Workshop was focused on components of writing great research papers. With examples and activities workshop served as a practical guide for art of writing research papers.



### Project Exhibition by ECE in H.P. Science Congress

5 student teams comprising of third year and final year ECE students of Chitkara University, H.P. under the guidance of Mr. Sagar Juneja - Associate Professor, ECE exhibited their innovative electronic projects in 2nd Himachal Pradesh Science Congress 2017-18 at Shimla on Nov 20-21, 2017. These projects were - LED Cube, LED Scrolling Display,



Mood Lamp, Catch the LED Game and Automatic Water Level Controller and Monitor. Projects attracted attention of lots of students, faculty from various institutions attending the event and media. Several local newspapers of H.P. also ran stories about these projects.



### ECE Faculty Attended a Three-day Workshop on FPGA

Ms. Minaxi Dassi - Assistant Professor, ECE attended a three-day workshop entitled "FPGA Based SoC Design" at CDAC Mohali. The workshop was conducted during Nov 27-29, 2017 and was focussed on FPGA design using HDL on Xilinx Vivado tool, applications of FPGA in speech recognition, test & measurements etc. It was delivered by Dr. Sanjeev Manhas - IIT Roorke and Mr. Ankur Sangal - CoreEL Technologies, New Delhi.

### Participation in Master Trainers Workshop

Dr. Rohit Verma, Associate Professor, AS attended the I3 Master Trainers Workshop at KLE Tech University, Hubli, Karnataka during November 28 - December 2, 2018. The workshop trained participants on introducing an Engineering Exploration course in their respective institutions. There were well planned sessions on engineering design process, mechanisms, platform based learning, project management, course curriculum development and evaluation.

### Participation in Conference at NIT Jalandhar

Dr. Madhu Gupta - Associate Professor, AS participated in three-day conference on "Matrix and Functional Analysis" organized by Dr. B. R. Ambedkar National Institute of Technology at Jalandhar, Punjab during November 30 - December 2, 2017.

### Participation in Entrepreneurship Workshop

Dr. Neha Kishore - Associate Professor, CSE attended one week workshop entitled "NEN Entrepreneurship Educator Program: WF100 & WF101" during December 11-17, 2017 held in New Delhi. It was an intensive five-day program that enabled participants to understand the nuances of entrepreneurship and starting ventures. Dr. Vinod Shastri (Benett University), Mr. Chandan Kar & Ms. Shruti (NEN group) were the resource persons of



the training program that was focussed on Entrepreneurship Concepts, Entrepreneurship Pedagogy and the Wadhvani Way of Entrepreneurship Development. The idea of the program was that the participants (mostly faculty) after getting trained would in turn train and inspire the students of their respective institutions on entrepreneurship.

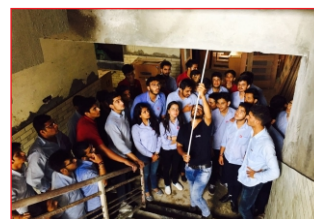
### Workshops Attended by Faculty of CSE Department

- ❖ Ms. Vaishali Gupta attended a workshop on Professional Etiquette for Working Executives on July 3, 2017 and a workshop on Evolving Blended Learning Models for Freshmen year of Engineering during July 10-13, 2017 at Chitkara University, Punjab.
- ❖ Ms. Vaishali Gupta and Ms. Latika Kakkar attended a workshop on "Image and Video Processing for Drones" during July 4-5, 2017 at Chitkara University, Punjab.
- ❖ Mr. Girish Rao and Mr. Karan Bajaj attended a workshop on Distinguished Facilitator on October 13, 2017 at Infosys, Chandigarh.
- ❖ Dr. Prasenjit Das and Mr. Chetan Sharma attended a workshop on Deep Learning in Big Data Analytics during November 6-17, 2017 at SKIT, Jaipur.
- ❖ Mr. Girish Rao and Ms. Parul Datta attended a workshop on Cloud Computing during December 4-8, 2017 at UIET, Panjab University, Chandigarh. The workshop was organized by Infosys.

### Industry Visits Organized

Department of CE organised at-least 10 visits to industry and building construction sites to give students field exposure. Some of these visits were Primary School Building Construction Site in Baddi, Indian School of Business Building Site in Mohali, Water Treatment Plant in Chandigarh, Lafarz RMC Plant, Baddi etc. Around 250 CE students benefited from these visits.

ECE department organized three industrial visits - to Semiconductor Laboratory (SCL), Mohali and to PCB design & manufacturing companies namely ELCHEM Ltd. and BCC Fuba. 2nd & 3rd Year ECE students were benefitted by these visits.



## PUBLICATIONS

- ❖ Aggarwal, A.K. (2017). Cyber physical system for monitoring the air and water quality in the Himalayan region. 2nd Himachal Pradesh Science Congress 2017-18, Organized by Himachal Pradesh Council for Science, Technology & Environment.
- ❖ Aravinth, R., Prakasam, C. & Prasad, S.S. (2017). Building footprint extraction from high resolution remote sensing data - A case study on Ayyappankovil, Elappara and Upputhara villages, (Idukki District, Kerala). Asian Conference on Remote Sensing - 2017.
- ❖ Aravinth, R., Prakasam, C., Sharma, Monika. & Vijaya, R. (2017). Long-term shoreline change analysis using remote sensing and GIS - A case study on Rameshwaram coastal area, Tamilnadu, India. National Conference on Strategies to Mitigate the Effects of Climate Change: Steps towards Sustainable Development.
- ❖ Das, P. (2017). Conservation of feature sub-spaces across root kit sub-families. International Conference on Computing, Analytics & Networks (ICAN2017), Chitkara University, Punjab.
- ❖ Datta, P. & Sharma, B. (2017). A survey of IoT architectures, protocols, security and smart city based applications. Eighth International Conference on Computing, Communication and Networking Technologies, Indian Institute of Technology, Delhi.
- ❖ Juneja S., Kochar S., Dhiman S. (2017). Intelligent algorithm for automatic multistoried parking system using image processing with vehicle tracking and monitoring from different locations in the building. Sensors and Image Processing, Advances in Intelligent Systems and Computing, vol 651, 73-84. Springer, Singapore
- ❖ Juneja, S., Sharma, R. & Mantri, A. (2017). Strategic partnership with industry to strengthen core competency in electronics - need, opportunities, challenges and success stories. 7th World Engineering Education Forum (WEEF) 2017, IEEE Xplore.
- ❖ Kanwar, V.S. & John, S. (2017). Use of electroplating industry sludge as a construction material. MedCrave Civil Engineering, 2(1).



- ❖ Kanwar, V.S., Grover, U. & Brijbhushan, K.S. (2017). Use of sludge containing *caco3* in the manufacturing of concrete. 2nd Himachal Pradesh Science Congress 2017-18.
- ❖ Kaur, Y. & Sohi, N. (2017). Pair wise sequence alignment method using flower pollination algorithm. 4th IEEE International Conference on Signal Processing, Computing and Control (ISPPCC 2k17), Jaypee University, H.P.
- ❖ Kishore, N., Saxena, S. & Raina, P. (2017). Big data as a challenge and opportunity in digital forensic investigation. International Conference on Telecommunication and Networks, Amity University, U.P.
- ❖ Kumari, R. & Nand, P. (2017). Performance analysis of existing routing protocols. International Journal of Scientific Research in Computer science and Engineering, 5.
- ❖ Kumari, R., Nand, P. & Chaudhary, C. (2017). Secure communication using PFS in a distributed environment. 2nd On-line International Conference on Ancient Mathematics and Science for Computing.
- ❖ Mittal, P. (2017) Integration of IoT and cloud computing. CSI Communications.
- ❖ Pabby, G. & Kumar, N. (2017). A Review on artificial intelligence, challenges involved & its applications. International Journal of Advanced Research in Computer Engineering & Technology
- ❖ Prakasam, C., Aravinth, R. & Kanwar, V.S. (2017). Landslide studies: A review. 2nd Himachal Pradesh Science Congress 2017-18.
- ❖ Prakasam, C., Aravinth, R., Kanwar, V.S. & Nagarajan, B. (2017). Landslide hazard evaluation methods: A review. Fourth Indian Landslide Congress.
- ❖ Prakasam, C., Aravinth, R., Kanwar, V.S. (2017). Land use land cover change detection & urban sprawl study using geospatial techniques: a case study of Shimla tehsil. 2nd Himachal Pradesh Science Congress 2017-18.
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## PATENTS

### Patents filed by Students and Faculty of Chitkara University Himachal Pradesh during July – December 2017

#### Improved Electrical Switch Socket Board for Enhanced Safety

(Patent Filing Number – 201711034650)

**By - Nitin Malhotra and Manik Sharma**

It is a safety and security mechanism for electrical sockets. When switch is ON, a shutter blocks holes of socket and when switch is turned OFF, shutter moves and expose holes of socket. It will ensure that plug can be inserted only when the switch is turned OFF. Plug pins to have grooves that will lock in the shutter when switch is turned ON, it will ensure that plug cannot be pulled out if switch is ON.

#### Anti Theft System and Method for Protection of Two Wheeler

(Patent Filing Number – 201711035110)

**By – Pintu Kumar**

Lock of two-wheeler to be connected to high pressure gas chamber. If thief breaks the lock, gas leaks which temporarily numbs the thief and creates a small cloud of mist, thereby alerting the passersby. This way it is low cost and effective anti-theft mechanism.

#### Rear View Mirror for Vehicle

(Industrial Design Application # 298997)

**By - Aniket Bharadwaj & Shubham Goyal**



#### Dustbin

(Industrial Design Application # 299365)

**By - Aniket Bharadwaj & Shubham Goyal**



#### Guiding Shoe for Blind

(Patent Filing # – 201711043039)

**By - Sahil Goel, Ripudaman Kaushik, Neeraj Kumar, Anshu Sharma**

Battery and/or solar powered shoes that is fitted with electronic system comprising of proximity sensor, Bluetooth connectivity, camera unit that will help the blind person to navigate. With Bluetooth connectivity the device can interface with smart phone for navigational purposes.

#### Smart Scroll Wheel for Mobile Phone

(Patent Filing Number – 201711043934)

**By - Sartajvir Singh & Vishakha Sood**

Rotating scroll wheel connected to the edge/boundary of the smart phone and is loaded with embedded software for running multimedia applications. It features fingerprint scanner, multiple touch functionality etc.

#### Method of Automatic Backlight Adjustment of Mobile Screen

(Patent Filing Number – 201711047427)

**By - Sartajvir Singh & Vishakha Sood**

The front camera is used as sensor to capture the ambient light. It basically clicks a picture when smart phone is unlocked and sends the picture to processor for image processing. Based on the result of processing, backlight of mobile phone is automatically adjusted using the algorithm running on the processor.

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