

# YANTRIKRUTHI

E-newsletter of Mechanical Engineering Department

A Two days Faculty Development Program on  
"ADVANCES IN CAD MODELING TECHNIQUES USING CATIA"

VOL-7 ISSUE-1  
FEB-2019 NHCE

Event was held at the Department of Mechanical Engineering on 17<sup>th</sup> & 18<sup>th</sup> of January 2019. The sessions were taken by experts from EDS technologies on CAD modeling. During training various tips and techniques for effective design using CATIA were discussed and suggested. The sessions included part design, assembly design, sheet metal design, interference analysis, composite design, rendering, surface modeling, etc. The resource person practically demonstrated the designs using CATIA. All sessions were practice hands on exercises. The discussed areas are of great benefit for the participants. The main objective of this FDP was to enhance the knowledge of researchers and faculty members in the area of design and analysis of complex design problems using CATIA in mechanical engineering domain. Participants were enlightened with the most widely used advance technologies in today's Engineering CAD design. This in turn helps the faculties to impart extra knowledge to their students.

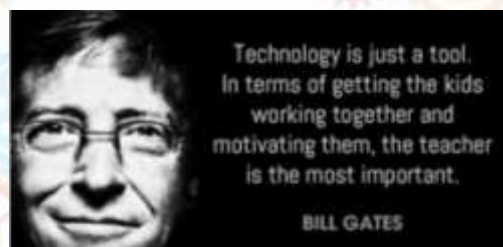


Technology is best when it brings  
people together.

— Matt Mullenweg —

## FORMULA KART DESIGN CHALLENGE 2019

Team "HORIZONTAL" a group of 27 young Mechanical Engineering students were participated in Formula Kart Design Challenge 2019, which was the national level event, being held at Pune during February 2019. We have designed and built a Go-kart which is robust, compact, and adventurous and can compete in challenge. We aspire to make our college proud by participating with full zeal and hoping to win the event. We hope everyone take this as an inspiration and come up with more innovative ideas which make the college and society Proud.



BILL GATES

**Aspire – Achieve - Succeed**



**Students Clubs** of Department of Mechanical Engineering in association with National Productivity Council organized Poster Making Competition on 31st January 2019. The theme of the program was **“Circular Economy for Productivity and Sustainability”**. The event was based on 3R principle such as Reduce, Recycle, and Reuse. The theme reflected on converting waste's in to valuable products and making the mission zero waste a reality. Various posters focused on green environment, global warming, deforestation, pollution etc. A total of 25 students participated in this competition. The Best Three posters will be sent to the zonal level competition for further processing.



## Industrial Visit



Indian Machine Tool Manufacturers' Association (IMTMA) organized an inter college Quiz contest on manufacturing technology for mechanical engineering students coinciding with IMTEX-2019 and Tooltech-2019 from 25-01-2019 to 29-01-2019 at Hall 3C-IMTEX 2019, (I2 ACADEMIA PAVILION), Bangalore International Exhibition Centre. The quiz focused on the students to understand, get acquainted with the latest technologies emerging in manufacturing industry, make them competitive to build their professional career and become industry ready. The topics of the quiz mainly involved questions on Machine Design, Automation, cutting tools, Industry 4.0, Production Engineering, Additive Manufacturing etc. Around 50 institutes all across India did participate in the event. Department of Mechanical Engineering students **secured runner-up position**.





Department of Mechanical Engineering of NHCE, Bangalore exhibited students innovative products at CII sponsored Exhibition - "Future Mobility Show 2019". Students of the department were very much enthusiastic in explaining their national/international concept cars/go-karts to the delegates of the show. The innovative cars were very much appreciated by Heavy Industry Minister - Mr. K J George. Most of the CEOs had visited the stall and appreciated the concept cars of our students.



Team AKRUTH participated in Shell Eco Marathon, an international event held by Shell, comprising of 11 members from different departments like Mechanical, Automobile and Electronics and Telecommunication engineering. Team AKHRUTH is an agglomeration of people with a strong sense of mutual commitment thus generating performance greater than the sum of the performance of its individual members. Combined with our effort and team work and all our time given in developing an ingenious car which was eco-friendly was our prime devotion. This competition mainly dealt with an economic way of transportation rather than speed or design. Team Akruth designed a single seated car which would procure long paths with desired time and pace. Catching up with the international standards. Team Akruth made way to the top certifying and qualifying all the expectations. This event had a major consideration towards safety. Highly qualified committee of technical inspectors checked each and every aspect of the car with a great deal of effort and corrected every single minute seizure. Technical inspection was a task to accomplish for our car to be fit for the track.



“Technology will not replace great teachers but technology in the hands of great teachers can be transformational.”  
George Couros

**Editorial board:** Dr. M. S. Ganesha Prasad, Prof. Shiva Prakash S, Prof. Puneeth, Prof. Rakesh. C, Prof. Ronald Reagon R, Prof. Manjesh B C, Prof. Santhosh A N, Mr. Sonic Somanna(4<sup>th</sup> Sem), & Mr. Parth (6<sup>th</sup> Sem)

**Advisory Committee:** Dr. C P S Prakash (Principal, Dayananda Sagar College of Engineering)  
Mr. Deepak Kamath (Technical Head of Continental India Ltd. Bangalore)  
New Horizon College of Engineering  
Ring Road, Near Marathalli, Bellandur Post - 560 103, Bangalore, Karnataka, India



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- Technical talk
- Guest lectures
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## TechHorizon 2019



New Horizon College of Engineering organized National Level Project exhibition **TechHorizon 2019** on 27-04-2019. Dr. K R Venugopal, Vice Chancellor, Bangalore University was Guest of Honour and Mr. O P Khanna, chairman, Needy Heart Foundation was Chief Guest. Around 600+ final engineering projects were exhibited. The theme for this year was "**smart India**". Good number of institutes from state as well as outside Karnataka were part of this mega event. Jury members were from the reputed organization and NHCE alumni association.



## Technical talk / Guest Lectures

Department of Mechanical Engineering had organized a Technical Talk on the “**Machine Design Approaches and design of springs**” for the students of BE – III Year students on **5th April 2019** and it was addressed by **Dr. P K Sahoo**, Principal Scientist at NAL. The lecture started with a brief introduction to design and the requirements of industry. Since, design of springs is a part of 6th semester curriculum, the speaker gave an in depth explanation of the topic. The design procedure was clearly explained and a numerical was solved in class for better understanding of the concepts. The lecture was a truly an enlightening experience for the students and better equipped them to meet the contemporary requirements of the industry.



Technical talk on “**Industrial automation**” by **Mr. Guruprasad M N** an imminent industry professional in the field of automotive sector and currently head in purchasing management BOSCH. The session included an overview of the basic concepts of automotive sector and supply chain management. The overall basic concepts of purchasing for various engineering applications were discussed. The students were also informed about key purchase indicator, roles of buyers, negotiating v/s bargaining, analyzing negotiations and cost solving activities. Attributes for a purchasers should have communication, creative and independent thinking was elaborated in details. The various examples of automobile industry in automation and future mobility are been found more interesting to the students.



Guest lecture on the topic of “**Finite Element Analysis**”. The speaker for the session was **Mr. Guru Shankar**, an imminent industry professional in the field of Aerospace Engineering. The speaker has over 15 years of experience in the field of Design and Analysis and worked for several MNC's. The session included an overview of the basic concepts of Engineering Mechanics and Finite Element Analysis. Many regularly used basic concepts like Fatigue, Engineering Stress, True Stress, Vibrations, Beam Deflections were explained clearly. A case study of a Gas Turbine designed by the National Aeronautical Laboratory (NAL) was explained. The students were also briefed about the requirement of the industry and the expectations that need to be met in order to be employed in the core technical fields of mechanical engineering.



Guest lecture on “**Mechanics of Materials**” by **Mr. Raghavendra K** an imminent industry professional in the field of automotive and aerospace field. The speaker has over 10 years of experience in the field of design and structural engineering and currently working for CATRILLAR through TCS. The session included an overview of the basic concepts of Engineering materials, Properties of materials and Finite elements methods. The real time practical problems on deflection of beams with several examples helped students to understand better in the mechanics of materials. The differential equation of deflection curve, shear force, bending moment diagram increased thinking ability of complex type problems. The evaluating deflections using integration was discussed.



The emotion at the point of technical breakthrough is better than wine, women and song put together





# YANTRIKRUTHI

E-newsletter of Mechanical Engineering Department

VOL-7 ISSUE-3  
AUG 2019 NHCE

## In this issue

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- Guest lecture
- Club activity
- Industrial Visit
- Alumni meet
- Centre of Excellence
- Forthcoming Events

## Workshop

A Five day hands-on workshop on **Quad copter & Aeroplane model building and testing** was organized by Department of Mechanical Engineering, in association with SkyFi Labs Bangalore was from **17<sup>th</sup> to 21<sup>st</sup> July 2019**. This workshop gave students opportunity to understand the theory behind the functioning of aircraft and aircraft design. It made them innovate by coming up with their own design of an RC aircraft and fabricate it from scratch. An interactive lecture session and design session helped them design their own aircraft.



## Guest Lecture

The department organized a guest lecture on the topic of **Aerospace Materials and Manufacturing Technologies**. The speaker for the session was a Scientist in DRDO professional in the field of Aerospace materials. The speaker has over 12 years of experience in the field Metal additive manufacturing, metal matrix composite materials, tribology, Al, Mg, Ti, ferrous alloys, shape memory alloy, high entropy alloy and Advanced manufacturing processes. The session included an overview of the basic concepts of Forging, Simulations and testing of materials. The various problems related to cast and forged parts used in engineering applications was discussed.

## Club activity

ROBOHORIZON CLUB organized a technical competition "TECH BUZZ". This competition was witnessed by 26 teams participated from various Engineering branches of NHCE, each team was restricted to two members. The questionnaires were framed was based on Automation Technology and were rolled in three rounds as Round 1: Word Finder, Round 2: Technical Video Quiz and Round 3: Ideathon. In final round, students presented their ideas on Internet of Things (IoT) and Machine Learning (ML) based technology in Agriculture application, which was mind-blowing highlight of the competition.



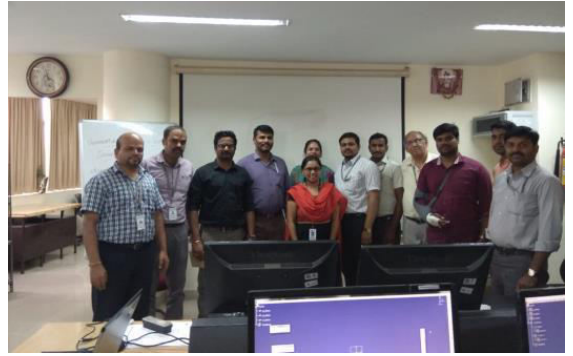
Happy  
Independence  
Day

What is NOT started today is NEVER finished tomorrow



# Workshop

Two days faculty development program “3D & Surface modeling through UXD/CATIA-Dassault systems” was organized by Department of Mechanical Engineering, in association with EDS Technologies Pvt Ltd, Bangalore was held from 17th to 19th July 2019 at CAED Lab, NHCE. The Programme also intends to develop the knowledge of participants for simulation with advanced software in the relevant field for inculcating learning values in students and guiding and monitoring their progress. The program enhanced the understanding on recent trends in Computer aided Design and manufacturing systems.



A One day hands-on workshop on “Computational Fluid Dynamics - simulation and analysis” was organized by Department of Mechanical Engineering, in association with KFour metrics Bangalore and POINTWISE Texas USA was held on 17th July 2019 at SAP NextGen- Centre of Excellence Lab, NHCE. This workshop intended to give exposure to the faculties about the scope and essential fundamentals of CFD. Computational Fluid Dynamics (CFD) being an important subject and skill in industry as well as academia was discussed in-depth during the sessions. The workshop was attended by participants from faculty members of various colleges and in house.

Centre of Excellence in association with CAPGEMINI

## Glimpses Alumni Sports Meet



Congratulations to students placed at CAPGEMINI



*You will face many defeats in life, but never let yourself be defeated*



## Industrial Visit Gallery



At Bangalore Metallurgical PVT. LTD



At Bangalore Metallurgical PVT. LTD



At UNNATHI CNC Technologies



At Vishnu Forging Industries Limited



At TRINITY NDT

## Forthcoming Events

**NEW HORIZON COLLEGE OF ENGINEERING**  
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC  
Accredited by NAAC with 'A' Grade, Accredited by NBA

The Trust is a Recipient of Prestigious Rajyotsava State Award 2012 Conferred by the Government of Karnataka  
Prestigious National Technical Education Institute in Karnataka-2016  
Ring Road, Bellandur Post, Near Marathalli, Bangalore-560 103, INDIA

**TOP ENGINEERING COLLEGE OF INDIA 2019**  
NATIONAL INSTITUTIONAL RANKING FRAMEWORK, 2019  
Ministry of Human Resource Development, Government of India, nitr

**AICTE SPONSORED**  
International Conference  
On  
"Innovative Research in Engineering,  
Management and Sciences"  
(ICIREMS - 2019)  
19<sup>th</sup> to 21<sup>st</sup> December 2019

All reviewed papers will be published in UGC approved journals and selected papers will be published in Springer, IETE Journal, Institution of Engineers(India), Scopus, Web of Science.

New Horizon College of Engineering  
Outer Ring Road, Marathalli,  
Bangalore - 560033  
www.newhorizonindia.edu

Knowledge Partners: IITM, IITK, IITR, IITG, IITD, IITB, IITJ, IITM, IITK, IITR, IITG, IITD, IITB, IITJ

Industry Partners: Capgemini, Schneider, VERTICA, VITI-3D

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Ministry of Human Resource Development, Government of India, nitr

Presents  
National Seminar on  
**MHRD Model Curriculum on  
Latest Technologies**  
(Latest Technologies as per MHRD-Model Curriculum like 3D printing & design,  
Robotics, Blockchain, Artificial Intelligence, Data Sciences, and Virtual Reality)



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# YANTRIKRUTHI

E-newsletter of Mechanical Engineering Department

VOL-7 ISSUE-4  
NOV 2019 NHCE

## In this issue

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- Achievements
- Industry visit
- Forthcoming Events

MAKE A  
TECHNICAL  
CONTRIBUTION;  
INNOVATE, DON'T  
EMULATE

DAVID BACKER

PICTUREQUOTES.COM

MAKE  
IN  
INDIA



## Workshop

TWO DAY workshop on “**MACHINE LEARNING WITH PYTHON**”. The speaker gave the session with the introduction to the jupyter notebook. He began with few basic operations and then gave a detailed introduction to different python packages like Numpy, Pandas, SciKit, Matplotlib which is extensively used for Machine learning. Selecting and indexing the data, slicing and dicing, position and label based indexing was discussed. Further the speaker gave an insight of data visualization by using different plots. Day 2 started with introducing the different machine learning technique. The Regression and Classification algorithms were explained and the model architecture of decision tree algorithm was explained by gini index and entropy method. Model building using decision tree on a chosen dataset. The total no. of participants for the workshop were around 80 students.



## Guest Lecture

The department organized a guest lecture on the topic of **Emerging Automotive Technology**. The speaker for the session was **Mr. P Rajendran**, from Nandi Toyota, Bangalore. The speaker has over 33 years of experience in the field IC Engine, MPFI System, Common Rail Injection System, i-VTECH, VVT, Automatic Ignition System, Braking System, Catalytic Converter, Air Injection System, Air Aspirator System and Emission Standards. The session included an overview of Automotive Technology which is essential required in multidisciplinary approach for the design and manufacturing of products. The concept of automotive covered the area of technology involving alternative fuels for CI engine, supercharger, turbocharger, antilock braking system, exhaust gas recirculation system used in design and development on new vehicles in industries were discussed. Automobile electronic fuel injection (EFI), driverless car, battery vehicle, fuel charging issues were explained clearly.



*Technology is a useful servant but a dangerous master*



## Guest Lecture

The department has organized a guest lecture on the topic of **Mechatronics and Microcontrollers**. The speaker for the session was **Mr. Gobalakichenan G**, Program Manager, IBM in the field of Mechatronics. The speaker has over 19 years of experience in the field Mechatronics system, Program logic controllers, sensors and transducers, aircraft simulators, electronic traction control systems, adaptive suspensions, landing gears, air conditioners under fuzzy logic control, automated diagnostic systems and micro electromechanical systems. The session included an overview of Mechatronics system which is essential required in multidisciplinary approach for the design, development and implementation of products. The concept of Mechatronics covered the area of technology involving sensors and measurement systems, drive and actuations systems, microprocessor and control system used in various engineering disciplines was discussed. The different Mechatronics systems such as Automobile electronic fuel injection (EFI), Automatic teller machines (ATMs), microwave ovens, room air-conditioning system, calculators, photocopier, sewing machines and even toys were explained clearly. The overall program was very much interesting and benefitted for the students to study advanced subjects and to do research and get placed in suitable domains.



The department organized a guest lecture on the topic of **Power Plan for Success**. The speaker for the session was **Dr. Vasantha Lakshmi**, Assistant Professor, Department of International Business at ITM Business School. The speaker has over 15 years of experience in the field HR, OB & Laws, having specialized in constitutional laws also published papers in national and international journals. The session included an overview of inspirational quotes on planning, focus of project team and refining approach. The end goal for making a solid plan to chart your destination. In this session powerful quotes on planning from business leaders, entrepreneurs and powerful leaders show cased the value of moving the projects forward was highlighted. The trouble with many plans is that they are based on the way things are now. To be successful, personal plan must focus on what you want, not what you have was discussed. The view success as the outcome or the product to reach at the end of a process of achieving goals. It starts with knowing our goals and working towards achieving them. Thus, it involves decisions and actions which are relatively relevant, purposeful, and effective to accomplish those goals was explained. The overall program was very much interesting and benefitted for the students in suitable domains.

*It is not that we use technology,  
we live technology*

## Achievements

Received received Rs 3,00,000/- (Rs Three Lakh ) for Conducting a program on "Outcome Based Education & NBA Accreditation" from VTU, Belagavi

Received received Rs 2,50,000/- (Rs Two Lakh and Fifty thousand) for Conducting Faculty development program on "Advanced Materials & Smart Materials" from AICTE, New Delhi



## Forthcoming Events




**AICTE SPONSORED ONE WEEK**

**FACULTY DEVELOPMENT PROGRAMME ON "Advanced Materials & Applications"**

30<sup>th</sup> December 2019 to 3<sup>rd</sup> January 2020

Organized by **DEPARTMENT OF MECHANICAL ENGINEERING**



Autonomous College, Permanently Affiliated to VTU, Approved by AICTE & UGC Accredited by NAAC with 'A' Grade & Accredited by NBA

TEQIP 1.3 SPONSORED FACULTY DEVELOPMENT PROGRAMME on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION"**



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