

# BURNOUT

Automobile Magazine

**FIRST** VOLUME  
ISSUE



Hindusthan College of Engineering and Technology  
Coimbatore

DEPARTMENT OF AUTOMOBILE ENGINEERING

# EDITORIAL

## FACULTY EDITORS



**DR. C. SABARINATHAN**



## STUDENT EDITORS

**MUKILAN. T, IV YEAR**

**KAVIN. V, IV YEAR**

**SETHUMADHAVAN. T,  
III YEAR**

**RAMGI. M, III YEAR**

**DHARUN, II YEAR**

*"Goals are the fuel in the furnace of achievement" – Brian Tracy*

*The editorial board of Automobile Engineering department welcomes you all to enjoy our virtual rally for the first half season of year 2018 – 19 with us!!*

*Thanks to the management, Advisor, Principal, Vice principal and dean for their continuous help and support. Their motivation fueled our car and their guidance added an additive to drive it in the rally aggressively.*

*3.....2.....1.....Go.....*

*These were the magic words which unleashed the potentials of our beast. The rally's Green flag was shown by Mr. G. Dinesh Kumar, Product Development Engineer, Milacron India Pvt. Ltd., Coimbatore. Along with that he enlightened our young rally crew minds to run throughout this rally with utmost care without compromising their position. Successfully our car leads the first lap.*

*The lap two was even more interesting. First corner 'Vahana V3.0' was very dramatically maneuvered with lot of fun and spin. The gathering was completely inspired by the performance of our team and lot of outsiders from various parts of the state was entered inside the viewer's port to motivate and encourage us. In the same lap we encountered to our second corner 'Autodesk Fusion 360'. And it was carefully exited with more technology and science. Lots of spectators appreciated the way our team performed.*

*With flagman displayed the Chequered flag, we entered into our third lap with the same enthusiasm which was so crucial with more safety in concern. The third lap was quite easy with the support extended by JK Motorsport which helped us to make a remarkable achievement in our premises.*



# INAUGURATION OF AUTOMOBILE ENGINEERING STUDENTS ASSOCIATION

The Department of Automobile Engineering, Hindusthan College of Engineering and Technology inaugurated the activities of Automobile Engineering students association on 30<sup>th</sup> June 2018 at AC seminar hall. The guest speaker was **Mr.Dinesh Kumar G, Product Development Engineer, Milacron India Pvt Ltd., Coimbatore**. The event started with invocation song followed by a welcome address by Dr.C.Sabarinathan, HoD. The guest lecture was preceded by a short talk by the Principal of HICET. As Inagural address the guest delivered a Lecture on **“Product Development – Art to Part”** In his talk he emphasized the importance of basic skills and knowledge for the development of engineering products and applications. The event started around 10.30 am and ended around 12.30 pm. The lecture was received with admiration by the students and they also found the presentation was more practical and useful. The guest was honored with a memento by Dean, Academics, HICET. Vote of thanks was delivered by Mr.M.Samuel Gemsprim, Asst.Prof, Automobile Engineering department. Finally the event ended up with National Anthem.



**MEMORIES OF THE DAY**

## **‘VAHANA V3.0’ – THE TECH FEST OF AUTOMOBILE DEPARTMENT**

It was a great moment of joy and pleasure for us, when the National level technical symposium ‘VAHANA V3.0’ hit the mass as a grand success. We are happy to inform that for the past 2 years, the technical exposure of students have been exhibited through our association activities. As part of such activities, every year technical symposium is being organized to ignite the young minds. With the same spirit, we stepped into this 3<sup>rd</sup> remarkable season of technical symposium “VAHANA V3.0” aimed to collaborate the techno-fun with the participants of various colleges in and around our nation. VAHANA V3.0 was a team work of our students’ association members under the guidance of Management, Advisor, Principal, Vice Principal, Dean, Head of the department and faculty members. To motivate the participants, merit certification and prizes were awarded. We got inspired by the participation and exhibition of different skills and innovative ideas from the participants in various activities.

### **Event Description**

Over 240 participants from various Engineering colleges in and around Tamilnadu were participated in the various events as mentioned below.

VAHANA V3.0 had eight distinguished events segregated as Technical and Non technical Events:

- Technical Events:
  - Paper Presentation – 54 papers
  - Auto Doctor – 44 teams
  - Auto SUDOKU – 56 teams
  - CAD modeling – 43 teams
- Non-Technical Events:
  - Bike Carnival – Auto enthusiasts exhibited their Superbikes and Classic vehicles
  - Autocross – 32 participants
  - Slow bike race – 36 participants
  - Stunt show – by Stunt Professionals

## WORKSHOP ON AUTODESK FUSION 360

The Department of Automobile Engineering organized a workshop entitled “**Autodesk Fusion 360**” a Professional Development Workshop for students from various institutions on Saturday, 8<sup>th</sup> September, 2018. The sessions were handled by **Mr.A.Reyaz Ahamed**, DGM Technical Support, Autodesk Authorized Training Center, Channel Partner, CADD Technologies School of Design Pvt. Ltd, Coimbatore.

The speaker presented 60-minutes overview of the software. In his introduction talk he has covered the basics of parametric modeling, freeform design, assembly creation, rendering, 3D printing, documentation and collaboration while designing mechanical and automotive components. Then after he started the hands on training session with dedicated systems to the individual participants. The session prolonged to 2.00 pm and it was much interactive and knowledgeable.

The feed- back on the workshop was very positive, with the resource person received a very good appreciation from the audience. Many participants expressed their eagerness to join in such workshops in future and motivated the organizers to arrange workshops of this kind furthermore.

Finally by the end of the session, the participants had a clear view on understanding the parametric CAD workflow, identification of interface aspects of Fusion 360, Articulation of the difference between a Body and a Component and Modeling, rendering and documenting a product.

Finally the Resource person was honored with a memento by Head of the Department.





# ROAD SAFETY AWARENESS STUNT SHOW

The need for prioritization of road safety education with a focus on issues like drunk driving, driving fast, negligent and rash driving are among the 22 main recommendations highlighted in a report submitted recently to the ministry of road transport and highways.

A working group on road safety education has made the suggestions that assume significance in the wake of increasing fatal accidents on the city roads and highways.

“In India, people consider it their right to use roads as per individual convenience. Citizens often don’t respect laws and, thus, create hazards for themselves and other road users. For instance, two-wheeler riders vehemently refuse to wear helmets. Intense awareness activities coupled with enforcement are required to sensitize people and bring about an attitudinal change,” the committee observed.

In the act of inculcating self-discipline among road users especially the student’s community, a road safety awareness programme along with a stunt show by professionals were organized by the Department of Automobile Engineering in collaboration with JK motorsports.

It gathered a very wonderful response from the management, students and staffs, since it was the first to host this kind of event in the institution campus. Over 750 spectators enjoyed the show which was properly arranged with safety in the main priority. Two rally cars and four stunt bikes were performed in front of the audience with the demonstration of safety features and the importance of safety accessories.



**HINDUSTHAN**  
COLLEGE OF ENGINEERING AND TECHNOLOGY  
(An Autonomous Institute, Accredited with 'A' Grade by NBA/ISO)  
COIMBATORE  
DEPARTMENT OF AUTOMOBILE ENGINEERING

**Car & Bike  
Combo  
Stunt Show**  
by  
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## ACHIEVEMENTS AND INITIATIVES BY THE DEPARTMENT

### Funds Applied and Received

	Mr.J.Yogaraja received a funding of Rs.15,000 under seminar grant from Council of Scientific and Industrial Research for two days national level technical seminar on 'Fuel Cell technology and its Applications'.
	The department received a funding of Rs.4,00,000 from Pradhan Mantri Kaushal Vikas Yojana for 400 hours skill development training on 'Automotive Engine Repair Technician'.
	The department received a funding of Rs.3,00,000 from Pradhan Mantri Kaushal Vikas Yojana for 300 hours skill development training on 'Automotive Body Painting Technician'.
	Mr.Naresh Malireddy applied for seminar grant from Tamilnadu State Council for Science and Technology for a national level technical seminar on 'Alternate Fuels and Hybrid Technology'.
	Mr.J.Krishnaraj applied for student project scheme under Tamilnadu State Council for Science and Technology for a project entitled as 'Fuel from Plastic wastes'.
	Mr.M.Samuel Gemsprim applied for student project scheme under Tamilnadu State Council for Science and Technology for a project entitled as 'Tribological Investigation on Vegetable oil as Engine Lubricant'.

### Publications:

1. C.R.Raajeshkrishna, P.Chandramohan, D.Saravanan, **C.Sabarinathan**, "Wear and friction behaviour of the basalt nanofillers reinforced epoxy nanocomposites", Journal of the Balkan Tribological Association, Book 3, p.484-497, 2018.

D. Saravanan, P. Chandramohan, C. R. Raajeshkrishna, **C. Sabarinathan**, "Enhancement of Mechanical Properties of Epoxy Hybrid Nanocomposites Through Hybridization of Carbon Nanotubes and Alumina Nanoparticles", Digest Journal of Nanomaterials and Biostructures, Vol. 13, No. 2, , p. 483 – 489, April - June 2018.

### Faculty Participations:

1. Mr.P.Barath Kannan has participated in 'Research Methodology in Fluid Mechanics' on 22nd & 23rd June 2018 held at PSG college of Technology, Coimbatore.

Mr.J.Yogaraja has participated in 'Three days workshop on ISO 9001:2015' on 3rd, 4th and 5th October 2018 held at Hindusthan College of Arts and Science, Coimbatore.

# STUDENTS PARTICIPATION & ACHIEVEMENTS

## CO-CURRICULAR ACTIVITIES

S. No	Student Name	Year of Study	Title of the event	Venue	Date
1	Praveen Kumar.C	III year	One day workshop on Programming for Campus Success	Hindusthan College of Arts and Science, Coimbatore.	27 <sup>th</sup> August, 2018
2	Shiv Raam.D	III year	One day workshop on Programming for Campus Success	Hindusthan College of Arts and Science, Coimbatore.	27 <sup>th</sup> August, 2018
3	Sethumadavan.J	III year	Two days Hands – on workshop on 'Controllers in IoT'	Sri Ramakrishna Institute of Technology, Coimbatore.	13 <sup>th</sup> & 14 <sup>th</sup> August, 2018
4	Logesh.S	III year	Two days Hands – on workshop on 'Controllers in IoT'	Sri Ramakrishna Institute of Technology, Coimbatore.	13 <sup>th</sup> & 14 <sup>th</sup> August, 2018
5	Kalaiarasan.M	II year	Paper presentation at TORQ 2K18, Mechanical Symposium	Loyola ICAM College of Engineering and Technology, Chennai	17 <sup>th</sup> & 18 <sup>th</sup> August, 2018
6	Sathish Kumar.T	II year	Paper presentation at TORQ 2K18, Mechanical Symposium	Loyola ICAM College of Engineering and Technology, Chennai	17 <sup>th</sup> & 18 <sup>th</sup> August, 2018





# STUDENTS PARTICIPATION & ACHIEVEMENTS

## EXTRA -CURRICULAR ACTIVITIES

S. No	Student Name	Year of Study	Title of the event	Venue	Date
1	Vignesh.J.B.S	III year	United India Games Association International Championship	Bangkok, Thailand	5 <sup>th</sup> to 10 <sup>th</sup> September, 2018
2	Vadivarasan.T	II year	Inter-college Volley ball tournament	-	15 <sup>th</sup> to 17 <sup>th</sup> August, 2018
3	Prasanna.C	II year	Inter-college Hockey match	-	16 <sup>th</sup> to 18 <sup>th</sup> August, 2018
4	Varin.B	II year	Inter-college Hockey match	-	16 <sup>th</sup> to 18 <sup>th</sup> August, 2018
5	Vadivarasan.T	II year	Inter-college Volley ball tournament	Sri Ramakrishna Engineering College, Coimbatore	26 <sup>th</sup> , 27 <sup>th</sup> and 28 <sup>th</sup> July, 2018
6	Prithiviraj.S	II year	Inter-college Hand-ball tournament	Sri Ramakrishna Engineering College, Coimbatore	27 <sup>th</sup> and 28 <sup>th</sup> July, 2018
7	Harinarayanan.E	II year	Inter-college Hand-ball tournament	Sri Ramakrishna Engineering College, Coimbatore	27 <sup>th</sup> and 28 <sup>th</sup> July, 2018
8	Leo Aakash.A	II year	Inter-college Hand-ball tournament	Sri Ramakrishna Engineering College, Coimbatore	27 <sup>th</sup> and 28 <sup>th</sup> July, 2018



## STUDENTS PARTICIPATION & ACHIEVEMENTS



### **BFKCT – BHARATH FORMULA KARTING**

We, the team 'Road Sonics' with member's strength of 35. We got inspired from our seniors team, 'TEAM BHP'. Our immediate seniors Mr.Arun and Mr.Karthik helped us a lot in manufacturing, designing and in calculations. We gained knowledge of various sections viz. budgeting, manufacturing, calculation, designing, material selection, testing, driving skills and handling of mechanical equipments such as cutter, welding, drilling etc...

With a team members of 5 members we went for Noida, New Delhi for attending the virtual round. We developed a report based on calculation, design, and cost report. During the virtual round we were asked for many aspects regarding design, calculation. After lot of struggles we managed to get selected in virtual.

The main thing we learnt is team handling, team management and collaborative working. We had a hands on experience on real time application of engineering. It took lots of sleepless nights and painful days. We got a good exposure on purchasing and also in consulting specialists of automobile and mechanical field. After completing our fabrication and assembling processes, we sent our drivers for training program. After that we had real time experimentation with our kart.

The first problem we got aroused was wheel alignment and then brake failures. We undergone several processes to rectify them and finally achieved it. Then we gave vigorous training to our drivers to get ready for the battle.

We got our final event dates during the late February. We took our kart to the pit and placed our kart safely there. The next day was "DISMANTLING AND ASSEMBLING" event. We created a time record in the event. Then the next day was "TECHNICAL INSPECTION" in these we got selected at the first time itself. On the days afternoon we had our turning radius test. Due to longer wheel base we were unable to turn the vehicle within the allotted space of 3 meters. So we were disqualified from the main event so we were unable to attend the endurance race and main race.

After a hard work of three months. Our dreams were scattered within a fraction of seconds. Our whole team returned from the pit with lots of pain. But our attraction and love towards "GO-KARTING" never ends. Now we are in the leadership qualities to train our juniors and they are achieving a good results to improve the brand for our "AUTOMOBILE DEPARTMENT".

We specially thank our department staffs for encouraging and helping in risky situation for completing our GO-KART successfully.

**- TEAM Road Sonics**

## STUDENTS PARTICIPATION & ACHIEVEMENTS



### BFKCT – BHARATH FORMULA KARTING

Those days were priceless by holding spanners, welding equipments, cutting tool and getting our hands dirty instead of going to regular classes and holding pens. That rush of adrenaline while people around revving their karts on August 2<sup>nd</sup> to 4<sup>th</sup> in Kari motor speedway.

Two months before the event and that's when our escape from daily routine of team 'Furious Freakerz' started. That's a two month of hard work of sacrificing our sleep, food and everything to build a kart from scrap to a complete roaring machine for facing a total length of 2.1Km track banking 14 turns and a straight stretch of 800 m, consisting of three rounds virtual, static, and dynamic.

It's our first day and our team 'Furious Freakerz' entered Kari motor speedway and got our pit allocated. There were more than 90 teams participated on the first day of the event from different parts of India

On the very first day we finalized our kart by making some initial adjustments like checking the brake fluid, tire pressure and took our kart to the first technical inspection. We pushed our kart out of our pit as if people in F1 crew pushing their's. Now we rolled our kart down to the TI pit for to qualify our vehicle in technical inspection. The whole team where nervous in that time. The two juries and one head inspector seemed to be strict persons inspecting every nook and corner of the vehicle for flaws and guess what, the first day was not on our favour because they noticed our kart had some issues and gave time to rectify it.

The second day's first mission was to clear the TI but the best part is the enthusiasm when the head inspector puts the checker mark in the kart is immeasurable. After completing TI, comes the dynamic round where the kart is pushed to its limit. First brake test here the kart has to reach 40 kmph and stopped within 10 meters fortunately we cleared the braking test.

Then came the acceleration test continued with skid pad test where our driver unfortunately hit some safety cones which costed our team some points. After so many struggles on clearing the virtual round we came to know that ours is the only team which cleared TI last and dynamic test first.

Final day of the event started with the first round, time trial & endurance. Total teams were separated as 6 to 7 for a batch. Our kart completed the time trial at a whopping 11.15 minutes, which was close enough to the position of 10 but that 3 minutes difference in time pushed us to 11<sup>th</sup> place in overall rank list and that's when We all learnt that "opportunity doesn't knock twice if given use the most of it".

**- TEAM Furious Freakerz**



# STUDENTS PARTICIPATION & ACHIEVEMENTS



**Track Day  
Memories....**



### FERDINAND PORSCHE (1875 - 1951)

I couldn't find the sports car of my dreams, so I built it myself.

Ferdinand Porsche founded the Porsche car company in 1931. In the early 1920s, he oversaw the development of the Mercedes compressor car, and later developed the first designs of the Volkswagen car with his son, Ferdinand Anton Ernst Porsche.

#### **Synopsis**

German automotive engineer Ferdinand Porsche was born on September 3, 1875 in Maffersdorf, Austria. At a young age, he had an affinity for technology, and was especially intrigued by electricity. Porsche worked as a successful vehicle engineer from the late 1800s to 1931, when he founded his own firm. In 1934, Porsche and his son, Ferdinand Anton Ernst Porsche, collaborated to develop the first designs of the Volkswagen car.

#### **Early Love of Cars**

Born on September 3, 1875 in Maffersdorf, Austria, Ferdinand Porsche became fascinated with electricity at a young age. In 1893, when he was just 18 years old, Porsche landed a job at Bela Egger & Co., an electrical company in Vienna that was later renamed Brown Boveri. Around the same time, he enrolled as a part-time student at the Imperial Technical University in Reichenberg (now called the Vienna University of Technology).

After only a few years at Bella Egger & Co., Porsche—whose supervisors were thoroughly impressed by his technological skills—was promoted from an employee to a management position. The year 1897 was full of milestones for Porsche. That year, he built an electric wheel-hub motor, the concept for which had been developed by American inventor Wellington Adams more than a decade earlier; raced his wheel-hub motor in Vienna; and began working in the newly created Electric Car Department at Hofwagenfabrik Jacob Lohner & Co., a Vienna-based company belonging to the Austro-Hungarian Army's joint Imperial and Royal Army, or k.u.k. in 1898, Porsche developed the Egger-Lohner electric vehicle C.2 Phaeton (also known as the P1), was the first electric car.

In 1900, Porsche's engineering abilities came under the international spotlight in Paris, when his wheel-hub engine was used to power the Lohner-Porsche—Hofwagenfabrik Jacob Lohner & Co.'s newly developed non-transmission vehicle—at the World's Fair of 1900. To his great satisfaction, Porsche's wheel-hub engine received wide acclaim.

## MOTORIST OF THE ERA...

Later in 1900, Porsche tested his engine in a race on the Semmering circuit, near Vienna, and won. In 1902, he got to drive one of his own designs while serving as a reserve foot soldier in the k.u.k. and, subsequently, a driver for Archduke Franz Ferdinand.

Porsche's engineering continued on a successful track. After working at Lohner for nearly eight years, in 1906, he became technical manager of the Austro-Daimler company. In 1923, he moved to the Stuttgart-based Daimler-Motoren-Gesellschaft company, becoming a technical manager and executive board member. There, his career highlights included overseeing the construction of the Mercedes compressor car. For his accomplishments, Porsche received an honorary doctorate degree by the Imperial Technical University in 1917. In 1937, he was awarded the German National Prize for Art and Science.

### **Building a Company**

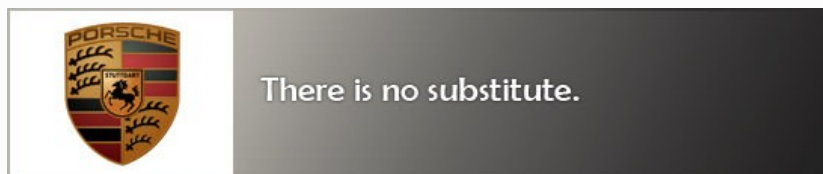
Porsche left Daimler in 1931 to form his own firm, which he named "Dr. Ing. h. c. F. Porsche GmbH, Konstruktionen und Beratung für Motoren und Fahrzeuge," according to Commercial Register documents from April 1931. In 1934, Porsche became deeply involved in Adolf Hitler's "people's car" project. That year, while working on the project with son Ferdinand Anton Ernst Porsche (born in 1909)—also known as Ferry—he developed the first designs for the Volkswagen car. From that point on, father and son worked together.

During World War II, Porsche and his son were tapped by Hitler to produce a heavy tank for the Tiger Program. Porsche submitted a prototype with an advanced drive system that was superior on paper but not on the battlefield. Prone to breakdowns and crucial design flaws, a competing company (*Henschel & Sohn*) got the contract to produce the Panzer tanks. Ninety to one hundred Porsche Tiger chassis were produced and later some converted into tank destroyers (*Panzerjäger*) called *Ferdinand*. Mounted with a Krupps turret and 88 mm anti-tank gun, the long-range weapon could take out enemy tanks before they reached their own range of effective fire.

When the war ended in 1945, Porsche was arrested by French soldiers (for his Nazi affiliation) and forced to serve a 22-month prison sentence. While he was incarcerated, Ferdinand Anton oversaw the creation of a new racing car, the Cisitalia, a Porsche-company product. To his son, upon his return, Porsche reportedly said, "I would have built it exactly the same, right down to the last screw." The father-son team went on to make history in 1950, when they introduced the Porsche sports car.

### **Death and Legacy**

Porsche died in Stuttgart on January 30, 1951, at the age of 75. Nearly 60 years later, in 2009, the Porsche Museum opened in Zuffenhausen, a suburb of Stuttgart.





## LEGACY OF INDIA



Everyone in India knows what the Hindustan Ambassador is. As a symbol of India's automotive history, there is little else that defines motoring in the country like it. From a mode of mass transport as the most popular Taxi in India at one point of time, to the de facto 'politician's preferred car', to a symbol of status in some parts of the country, the Ambassador has seen it all. In fact, the Ambassador was even raced and rallied in the 70s and 80s in rallies like the

grueling Karnataka 1000 and the Himalayan Rally with positive results. Of course, most of us will remember the Ambassador fondly through a childhood memory in the spacious rear seat or as a car someone in the neighborhood had. That said, since the Ambassador brand name is due for a revival; let us have a look on the models evolved in Indian automotive history.



## PMKVY - AUTOMOTIVE BODY PAINTING TECHNICIAN

The department received a funding of Rs.3,00,000 from Pradhan Mantri Kaushal Vikas Yojana for 300 hours skill development training on 'Automotive Body Painting Technician'.





## PMKVY - AUTOMOTIVE ENGINE REPAIR TECHNICIAN

The department received a funding of Rs.4,00,000 from Pradhan Mantri Kaushal Vikas Yojana for 400 hours skill development training on 'Automotive Engine Repair Technician'.





# Unforgettable Memories



We congratulate **Mr.Mgnesh JBS** for his achievements in International level Badminton tournaments, which brought laurels to the Department. We feel proud to showcase some of his key achievements:

- Gold medal in National Badminton championship in senior doubles held at Amritsar, Punjab.
- Silver medal in International Badminton championship in singles held at Nepal.
- Gold medal in International Badminton championship held at Bangkok, Thailand.

We wish him all success throughout his future Endeavors



## Stuntshow by Immortal Racers

