

Vol. 1 Issue - Jan 01 2021

Department of Automobile Engineering

Odd Semester Newsletter



KUMARAGURU
college of technology
character is life



FIRST GEAR

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Introduction

From HOD's Desk

We are happy to release the newsletter of the Department of Automobile Engineering "First Gear" January 2020 issue. First Gear is a magazine compiled and edited by the the editorial board comprising student members and faculty coordinator.



This is a platform for the students to showcase their writing skills which will also create awareness among the students about the recent developments in the automotive industry sector and also the research and developments. This magazine also covers the events organized during this period and events, webinars, conferences participated by the students and faculty members . I am sure this will inspire many of the students to understand the importance of professional development. I congratulate the entire team for bringing out the newsletter successfully which will be a great tool of communication among the students.

Vision

To be a renowned Learning Centre in the field of Automobile Engineering contributing towards the development of the society.

Mission

To attain the Vision, the department will

1. Develop students for successful careers in Industry, and Academia.
2. Provide the required learning environment and processes to become Socially responsible Engineering Professionals.
3. Establish Industry-Institute interaction
4. Inculcate the entrepreneurial mindset to start-up a new business

Events, Webinars & Workshops

Webinars

Engineering the World Rally Car.

This session was conducted by “Mr. Graeme Harris” who is a senior lecturer and tutor in Mechanical engineering at ARA Institute of Canterbury, New Zealand. He has completed consultancy projects on the design and development of the exhaust system for jet speed boats and performance setup. This session was conducted on 18th June 2020 | from 3.00 pm to 4.00 pm.

Enlightening Automotive Design and Styling and Live Demonstration.

A practical demonstration and exposure in Automotive sketching in a simple but effective way through step by step demonstration by experts Mr.G.Sathya, Mr.S.Sivakumar, Mr.M.Manivannan. This series was conducted from 27th June – 29th June 2020 | from 11.00 AM - 1.00 PM.

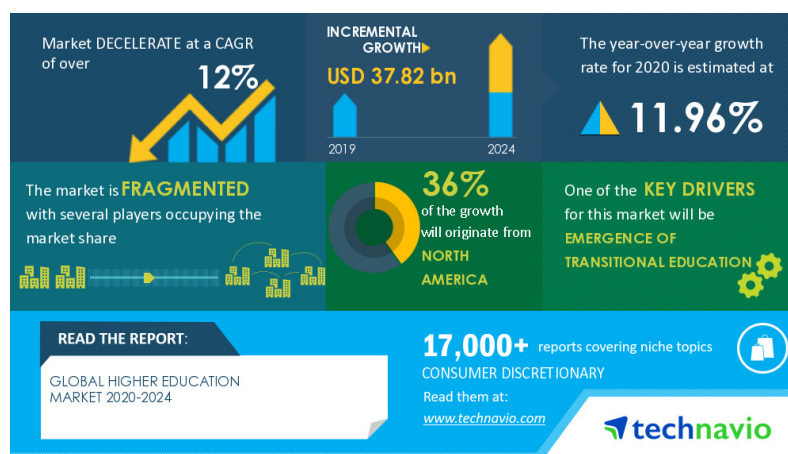


Job Search and Employment – Broadening our Perspective as Mechanical Engineer

This session was handled by Mr. Jagan Srinivasan who is a 2011 Mechanical engineering Alumnus of KCT and holds a Masters in Industrial Engineering from Ohio State University. He is now working as Project Quality Engineer in USA. This session included the soft skills and Attitude needed to find employment in general. This session was conducted on 3rd July 2020 | from 5.00 PM – 6.00 PM.

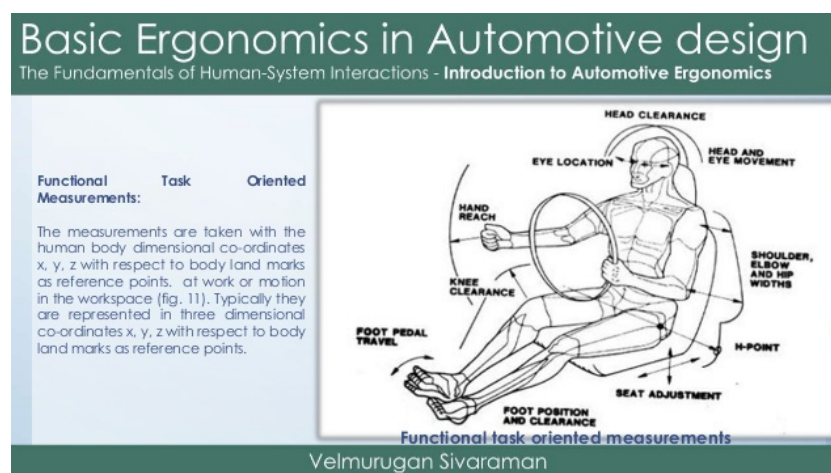
International student survey global opportunities in the new higher Education paradigm in Covid-19

This session was conducted with "CAREER ZONE". It was in view to help graduates pursue their global careers, education, and life. This session was hosted by "Mr. S. Prasanna Krishna". He was an educationalist, serial entrepreneur consultant and the founder of CAREER ZONE. This session was conducted on 31st July 2020 | from 10:00 am to 11:00 am.



Automotive ergonomics.

Automotive ergonomics deals with the physical interaction of motor vehicle occupants with the vehicle interior during normal operating conditions. This session was hosted by Dr. Sougata Karmakar, who is an editorial board member and a reviewer in Elsevier Journals. This session was conducted on 28th August 2020 | from 11.00 am to 12.30 pm.



Heavy road vehicle safety and electrification.

This session was about the heavy road commercial vehicle and their safety. This session also involved the topic of electrification of vehicles. It was hosted by C.S.Shankar Ram, who is a professor at the Indian Institute of Technology (IIT) Madras. This session was held on 11th September 2020 | from 2:00 pm to 3:00 pm.



Automotive styling and sketching.

This session was a peer learning session where students learned about the basics of automotive sketching and styling by our alumnus. The highlights of the workshop are Introduction to automotive styling and sketching, basics of CAD modeling, and component design. This session was held on 15th September 2020 | from 1:30 pm to 2:30 pm.

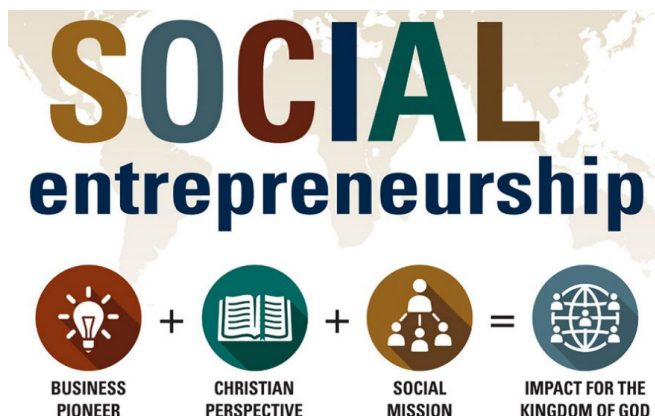


Social Entrepreneurship.

This session was conducted to give a basic ideology on social entrepreneurship. It was hosted by Mr. Ram Prakash Krishnan. He is a social entrepreneur. He is the co-founder of Vidhya Vidhai Foundation. This session was conducted on 28th October 2020 | from 5:00 pm to 6:00 pm.

Professional approach in final year project work in Engineering

This event primarily focused on the supervision of the final year project and knowledge sharing on recent trends and career opportunities on EV. Mr. K.N.Balaji shared his perceptions about recent trends in the industry and shared his ideas on where the students should concentrate. This session was conducted on 21st November 2020 | from 10:00 AM-11:00 AM.



Awareness on preparing for government competitive exams

This webinar was organized by the both Automobile and Mechanical department. It was handled by Mr. Arunachalam. In this session, the participants gained knowledge about government jobs, related to their interested domains. This session turned out to be a perfect foundation for those who are on a journey to crack the competitive exams. This session was conducted on 19th Dec 2020 | from 3.00 pm to 4.00 pm.

**FACTU !
FACTU !
FACTU !**



75% of all cars
produced by Rolls
Royce are still
on the road.



There is one place in the
world where a boat can
sail underneath a train,
while the train can be
driven underneath a car
that can be driven
underneath an airplane.

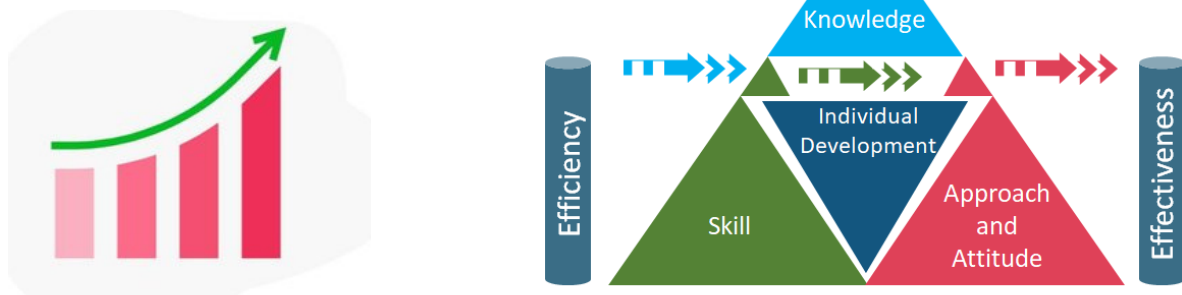
Career Development Program

AUE TECH-INT

TECHNICAL TRAINING AND CAREER ENHANCEMENT PROGRAM

AUE TECH-INT is a technical training and career Enhancement program which was conducted and organized by the Automobile Department Association. It provides basic knowledge in the Automobile and Mechanical areas.

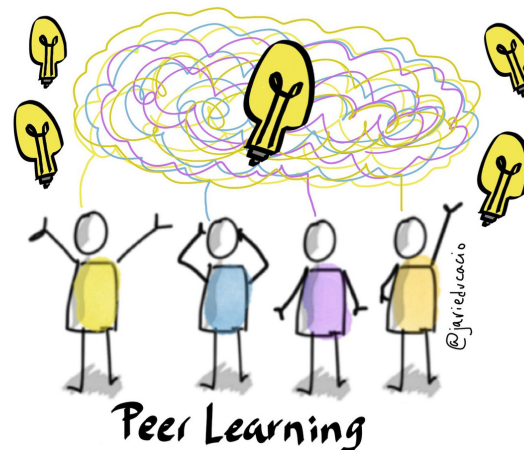
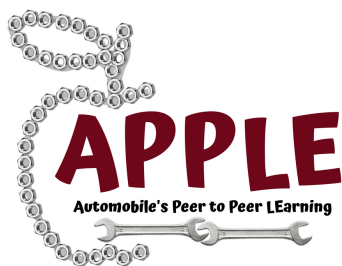
The main motive of this program was to help the students to know how to tackle the technical interview. And in this session, all the technical questions that would be asked in the technical rounds were discussed. It mainly concentrated on the topics of Automobile and Automotive Electronics. This series of sessions was conducted from 06th July to 16th July | From 10.00 AM – 11.00 AM.



In those 11 days, courses such as Fundamentals of Thermodynamics, Engineering mechanics, Fundamentals of the Strength of Materials, Material Science, Engineering Graphics, Machine Drawing, Manufacturing Technology, Basics of Fluid Mechanics, Vehicle Maintenance, Fundamentals of FEA and TQM, Fundamentals of IC Engine, Fundamentals of Vehicle Dynamics, Basics of Automotive Electronics, Skill Development on Research Methodology and Technical Presentation, Personal Development, and Career Enhancement and all were given an overview to the students.

APPLE - Automobile's Peer to Peer LEarning

APPLE is the Automobile's Peer-to-Peer Learning platform which is conducted on every Thursday by the Automobile department. Peer teaching is an instrumental strategy in which students who are advanced in specific domains, or those in later years, take on a limited instructional role, to teach or share their experience or knowledge in the specific field of work. The beauty of the series is that anyone can conduct this session and anyone can attend this session, it is organized by students for students. Before starting a session, generally, a survey is taken, regarding the needs of the students, based on their responses a session will be conducted every week on Thursday. The students of the Automobile department are working hard to make it reach throughout the college and trying to market the brand. Several sessions that were conducted are listed below. The motive of the sessions is to improve direct interaction between students and to gain knowledge according to their requirements, without any barrier between them.



The Art of restoration

This was the first session of the APPLE series. This session kindled the interest in restoration and made the people re-engineer the vehicle. This session was conducted by Mr. K.Abinandhan our 3rd-year Automobile Engineer student of Kumaraguru College of Technology. This session was conducted on 29th October 2020 | 4:00 pm to 5:00 pm.

An Oration on Fabricating Research Paper

For the second week of the APPLE series, An Oration on Fabricating Research Paper was conducted by Mr. Yaswanth Kumar. He shared his insights and knowledge on how to proceed with Research Publications. This session was useful for the students who are doing their research works and also made them publish their own Research Papers. This session was conducted on 5th November 2020 | from 4:00 pm to 6:00 pm.



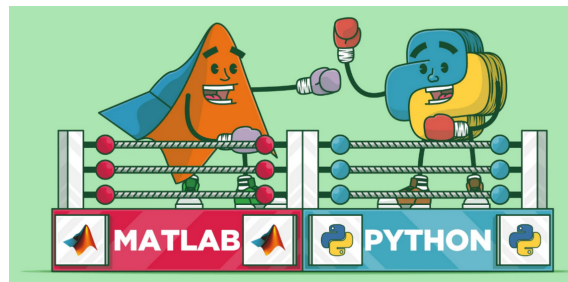
Basics and Fundamentals of PCB Designing

As for the third week, a session on "Basics and Fundamentals of PCB Designing" was conducted by Mr. Annamalai. He shared his insights and knowledge on PCB designing. This session was helpful for the participants to know, what was PCB design and how to fabricate them. This session was conducted on 12th November 2020 | from 4:00 pm to 5:00 pm.



Introduction to MATLAB

As for the fourth week, "Introduction to MATLAB was conducted. Mr. Anush Kumar shared his insights and knowledge on MATLAB introduction. This session was about the fundamentals of MATLAB designing and also to simulate their designing ideas. This session was conducted on 19th November 2020| from 3:45 pm to 4:45 pm.

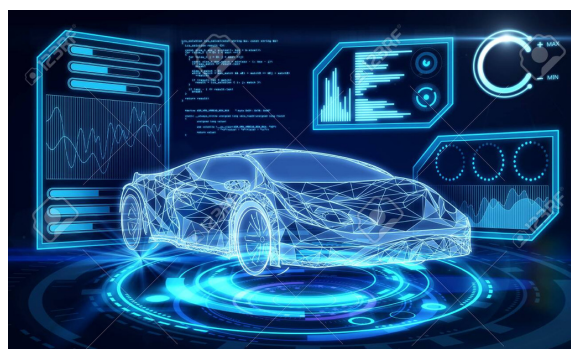


Don't be afraid to study!

The session was handled by Mr. Jayaseelan from the Founder of Young Ones. He shared his experience and various learning on how to become a successful entrepreneur, this session also ignited the interest on becoming an entrepreneur with successful start-ups and business.

Introduction to Automobile Subsystem

The session was completely handled by the KCT Garage students. These people spent their valuable time in teaching about the basics of the Automobile Subsystem. This session was conducted for six days (25th November- 4th December). In this session, they covered several topics including "Frames, Suspension, Steering, Power train, Brakes".



Crack your Interview

Miss. Selvi of 2020 batch who is working as an Associate Software Engineer in Bosch, handled this session. She gave tips and tricks on how to improve one's soft skills, personality, body language, intonation and carry oneself. This session was conducted on 23rd December 2020| from 4:00 pm to 5:00 pm.



Industrial Connect

Roots industries

A virtual internship was arranged by S. Sivakumar. It was a two days internship that was conducted on 15.6.2020 and 16.6.2020. In that internship, topics about Sheet metal, Stamping process, and Die casting were discussed.

Applied Mathematics in Engineering Domain

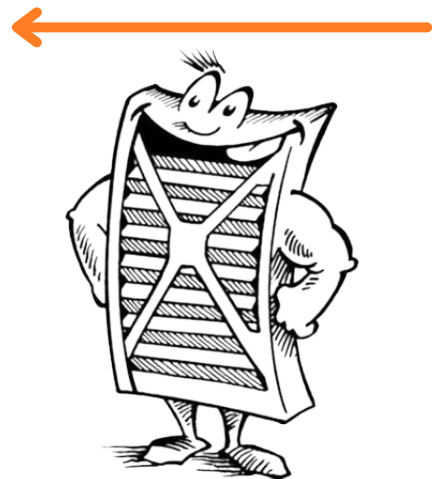
Twenty students from Automobile, Mechanical, Mechatronics, EEE, ECE, CSE, Civil started working on developing content for the Engineering students. They are working on to release a book on Applied Mathematics in Engineering Domain with examples and relevance mentored by both Mr.Karthik, R&D manager Ampere Vehicles and S.Sivakumar, HOD of Automobile Department.

VEHICLE MAINTENANCE TIPS

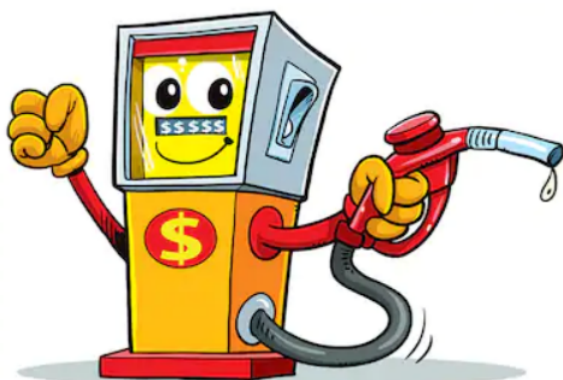


Short of breath? Feeling tired? Your car's engine needs oxygen as much as you do. A constricted air flow can cause the fuel to not burn completely, in turn increasing emissions and reducing mileage. Check the air filter and get it cleaned/ changed whenever you feel there is too much dirt and debris stuck to it. Your engine needs to breathe properly to function well and keep going.

LET IT BREATHE



DON'T KEEP GOING ON RESERVE FUEL



Petrol contains sediments which settle at the bottom of your tank. Years of running and there will be definitely a layer of crap which shouldn't reach the engine. Running on low fuel pulls this junk into the fuel pump which could cause a lot of wear. Instead of just praying it doesn't reach the engine, top up your tank and save yourself repair/ replacement cost of the fuel filter and pump.



Events

Auto Genius

A Technical Event Named "Auto Genius" was conducted which had three rounds "Crack the Core", "Group Discussion", "Auto Shape" in which the winners were awarded exciting prizes worth Rs.1000. This Event was conducted on 15th September 2020 | from 3.00 PM – 5.30 PM.

Tech meme

This session was a funny initiative to spread awareness and knowledge through MEME. This session was conducted on Instagram @aue_kct from 16th October to 17th October.

Find me out

This session was conducted in a quiz manner, TECHIE QUIZ on logos, Brands, and automotive products. This session was both technical and non-technical. 50 questions were given. This session was conducted on October 15th, 2020 | 5:00 pm to 6:00 pm.

Automotive Catechize

This online competition was an ultimate opportunity to explore the exhilarating world of automotive tech stuff & learn some interesting engineering concepts. The flagship event was open to public for this new-normal in 2020, brought to everyone by SAEINDIA KCT Collegiate Club to inculcate the passion for automobiles by recognizing and developing young talent. This quiz was not just a platform, it was a beginning stone for the destination from where their automotive journey kick starts! This competition was conducted by our department in collaboration with SAEINDIA KCT Collegiate Club.



Publications & Achievements

Paper Published by students

"Automatic rain sensing car wiper" Published in E-Journal, Volume 6, Issue 6 in June 2020, paper ID: IJSARTV6I637778, ISSN [ONLINE]: 2395-1052.

- J. Niveth kanna, G.V. Harikrishnan, S. Prabu

"Spark Plug Wire Voltage Tester" in International Research Journal of Modernization in Engineering Technology and Science (IRJMETS), Volume 2, Issue 6, June 2020, paper ID: "IRJMETS26980", e-ISSN: 2582-5208.

- M. Hari Nivethan, A. Ajay Bharathi, S. Prawin Khumar

"Design and analysis of single wheel hover-board" in International Journal of Advance Research, Ideas and Innovations in Technology, (Volume 6, Issue 3), © 2020. ISSN: 2454-132X,

- S. Narendran, Vishal Sampath, N.P. Akarsh

"Anti sloshing Fuel tank" published in IJERR, ID-631278, in 2020.

- S. Subash, S. Varun, I. Vishal

"Testing of Piezoelectric suspension System", International Research Journal of Modernization in Engineering Technology and science volume:02/Issue:06/June-2020,e-ISSN:2582-5208.

- Andrew Lydwin A, Kamleshvara VR, Adhith R

"Design and Optimization of FS Vehicle Upright", IJESC(International Journal of Engineering Science and computing).Volume 10 Issue No.5,ISSN 2321 3361 © 2020

- M.M.Muhsinul Islam, Nithish. N, Nithish. M

"Design and Optimization of chain Sprocket of a Formula Student Car", IJESC (International Journal of Engineering Science and Computing), Volume 10 Issue No.6, ISSN 2321 3361© 2020 IJESC

- Vishnuvel. K, Kajendran. M, Akil Saran



"Design and Installing Li ion Battery in Bike during Retrofication",
Volume 10 Issue No.6, ISSN 2321 3361 © 2020 IJESC.

- K. Natarajan, R. Dinesh, M. Sasidharan

Publications & Achievements

Paper Published by Faculties

"Analysis of double chambered single and cascaded microbial fuel cells: characterization study based on the enrichment of fuel",
International Journal of Intelligent Enterprise, Volume 1/2/3, Issue 7, pages 81-92.

- Dr. G. Thenmozhi

"Environment friendly refrigerant options for automobile air conditioners", a review / Journal of Thermal Analysis and Calorimetry/ISSN 1388-6150/pp.1-26/DOI 10.1007/s10973-020-10286-w, (Springer).

- Dr. J. D. Andrew Pon Abraham

"PAPR reduction of MIMI-OFDM with reduced computational complexity SLM Scheme", Elsevier Materials Today: Proceedings <https://doi.org/10.1016/j.matpr.2020.08.498>.

- Dr. G. Thenmozhi

"Comparison of chassis frame design of Go-Kart vehicle powered by internal combustion engine and electric motor", <https://doi.org/10.1016/j.matpr.2020.07.504>.

- C. Naveen Kumar

"Numerical Investigation on various layouts of Phase Change Materials based Battery Module used in Electric Vehicles", (No. 2020-28-0499). SAE Technical Paper.

- Dr. S. Mohankumar

VEHICLE MAINTENANCE TIPS



Tyre pressure can impact the fuel economy. It also affects the comfort and handling. Your car's owner manual will have the recommended tyre pressure. Generally, the tyre's pressure should be checked every week.

CHECK YOUR TYRE PRESSURE REGULARLY



PROTECT YOUR HEADLIGHTS



Turn on your headlights once a month when you park in front of a flat surface to check if both headlights are working properly and well-positioned. Visually inspect both turn signals by walking around your car and see your parking lights. You can even ask a friend to stand behind the car while you engage the brakes to be certain that your brake lights are functional.

Publications & Achievements

Paper Published by Faculties

"A Machine Learning Approach for Vibration Signal Based Fault classification on Hydraulic braking system through C4. 5 decision tree classifier and logistic model tree classifier", (No. 2020-28-0496). SAE Technical Paper.

- Dr. S. Mohan kumar

"Fabrication and testing of short fiber composites made of used brush bristles as reinforcement combined with epoxy matrix", Elsevier - Materials Today Proceedings.

- C. Naveen Kumar

"The static structural analysis of torque converter material for better performance by changing the stator angle", Elsevier - Materials Today Proceedings.

- C. Naveen Kumar

"Experimental studies on mechanical and morphological property of the natural and SBR/BR hybrid rubber", Elsevier - Materials Today Proceedings.

- A. Prabhakaran

"Analysis of the efficiency of an automotive alternator by replacing Mild steel into aluminum as a material for rotor",

- A. Prabhakaran

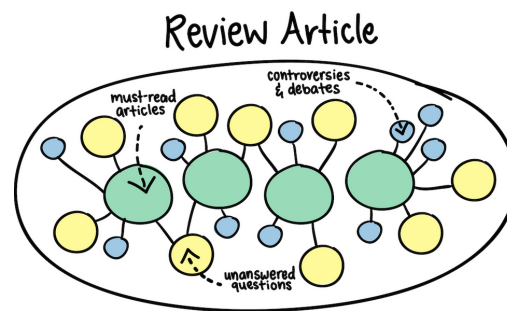
"Impact analysis on change in climatic conditions due to the development of highway roads and other infrastructures at Coimbatore", an evidence/ IOP Conference Series: Earth and Environmental Science/573/1/pp 1-6/ doi:10.1088/1755-1315/573/1/012006.

- Dr. G. Thenmozhi

Review papers and Journals

Dr. G. Thenmozhi

1. "Integrated Control of Tire Slip & Drivetrain Vibrations for Hybrid and Electric Vehicles", IEEE TVT.
2. "A New Parallel-Hybrid-Excited (PHE) Machine with a Harmonic-Differential Effect for Electric Vehicles", IEEE TVT.
3. "A New Parallel-Hybrid-Excited Permanent-Magnet Machine with Harmonic-Differential Effect for Electric Vehicles", IEEE Transactions on Vehicular Technology.



Dr. J D Andrew Pon Abraham

1. "Experimental energy and exergy performance of an automotive heat pump using R1234yf", Journal of Thermal Analysis and Calorimetry.
2. "Numerical Study on Flow and Heat Transfer Characteristics of Square Cylinder with Lateral Sides Extension Effect", Journal of Thermal Analysis and Calorimetry.
3. "Numerical Study on Turbulent Natural Convection and Radiation Heat Transfer of Nano Fluids in a Differentially Heated Square Enclosure", Journal of Thermal Analysis and Calorimetry.

Mr. S. Sivakumar

Article ID 20M-06-401: Automated Extraction of the Urban Feature Heavyweight and Lightweight Models from LiDAR Point Clouds by the Relevant Software Elaboration, Advances in Science, Technology and Engineering Systems Journal (ASTESJ).

Guest Lectures Delivered

"Enlightening Automotive Design and styling"

A webinar on Enlightening Automotive Design and styling was conducted on 27.06.2020 for a duration of 2 Hrs and students gained Exposure to automotive design and styling.

- Dr. S. John Alexis, Mr .S. Sivakumar

"Introduction to Vehicle Dynamic Simulations"

A webinar on Introduction to Vehicle Dynamic Simulations was conducted on 18.06.2020 for a duration of 1 Hr and students gained knowledge on the basics of Vehicle dynamics.

- Mr. J. Saiganesh

"Fuel Cell Technologies"

This webinar was conducted on 19.06.2020 for a duration of 1 Hr and helped students enrich the knowledge in fundamentals and latest technologies aligned to fuel cells.

- Mr. R. Kishore

"Recharge"

A Webinar on " Recharge" was conducted on 24-8-2020 to PGDDE students of 6th Batch.

- Mr. S. Sivakumar



Books Published

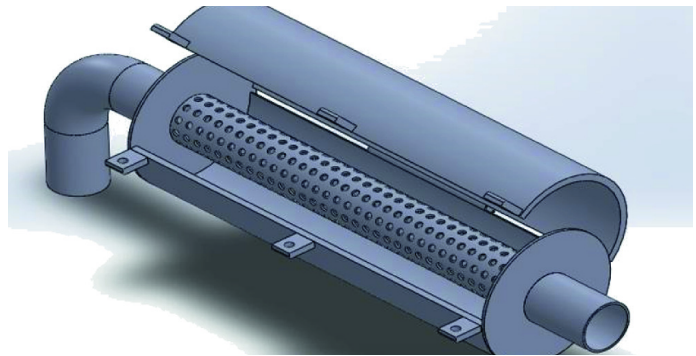
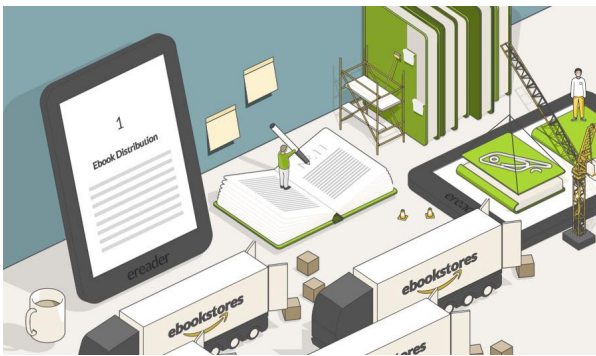
Dr. S. Mohankumar

Book Title: Emerging Technologies for Waste Valorization and Environmental Protection

Contributed Chapter: Capture of CO₂ from Automobile Exhaust by Using Physical Adsorption Technique.

Publisher: Springer , **Year of Publication:** 2020

Page Number: 59 to 68



Ph.D. Completion

Professor J D Andrew Pon Abraham has completed his Ph.D. in "Automotive air-conditioning" on 3rd October 2020.





Student Participation and Achievements

It has been more than nine months since the Indian government has implemented lock down due to the pandemic situation. Due to this implementation, many sectors have been facing many problems including the education sector, even though the institution and students are doing their best to give and gain knowledge in this situation. And we are so proud to say that our **Department Association** has never stopped their work of connecting with the students and trying to give their best in sharing knowledge with everyone. In this new era, the Department Association of Automobiles has organized many events and webinars under the guidance of the Department Association president Mr. T.Julash.

Ré also known as the **Research cell of KCT**, provides great support to the students in enhancing their career by learning and getting some hands-on experience with the Industry experts along with some peer learning sessions. Many projects have been initiated, also many papers have been published by the students interested in various fields. There are many verticals available at Ré like EV's, Autonomous Vehicles, 3d printers, Flight and drone systems for the innovation and exploration of the students. In the research cell, our department students, Krishanth.M, Abinandhal Palanisamy.K, are participating in the Ré fellowship training program.

Our students G.Dharmaraj, M. Dharineesh, K. Abinandan Palanisamy (3rd year Auto students) have participated in the ELGi research program which was conducted on **ELGi Technology** day under the guidance of S. Satish, C Naveen Kumar from 20/08/2020 TO 25/11/2020.

FACTU !
FACTU !
FACTU !



The average
Formula 1 pit stop
is less than three
seconds



Almost everything
on your car is
derived from
something
originally
developed for a
race car



Team blitzkrieg had completed the Preliminary round and Virtual presentation of **BAJA SAEINDIA 2021**. They have secured 1st place in Tamilnadu and 20th place in India, among 150 participants in the preliminary round. Now they are working towards the BAJA 2021 final event, that will be held in January 2021.

Online Courses

Our students have nearly completed over 150+ courses during this pandemic. A wide range of courses including non-technical courses have been completed.

Placements & Internships

This pandemic never stopped our students from achieving their dream placements. Our department students

- "Harinevethan.M, Dineshvikram.B, Nithish.M, Kathirvel Shunmugam.B, and Narendran.S" have been placed in **CTS**.
- "Julash.T" has been placed as Sales Associate, and doing his Intern at **Repos Energy India Pvt. LTD**, Pune.
- "Amal Dhandapani" is doing his Intern as a Junior Mechanical Designer at **Elmech Automation**, Coimbatore.
- "Darshan Kumar" is doing his Intern as Sales Manager in **Elmech Automation**, Coimbatore.
- "Muhsinul Islam" is doing his Intern as Trainee Engineer, R&D in **Propel Industries Pvt. LTD**, Coimbatore
- "Nithish.N, Dineshvikram.B, Nithish.M, Kajendran.M" have been placed in **TCS**.

Automotive news

MG's 7-seater Hector Plus to hit Indian roads in Jan 2021

MG Motor India on Friday announced that it will introduce the MG Hector Plus 7-seater version in January 2021. The automaker unveiled the Hector Plus at Auto Expo 2020. The 7-seater will share its powertrains and feature list with the standard Hector. MG Hector is available in both petrol and diesel options along with the option of a 48V Hybrid variant. The petrol version also comes with a DCT (dual-clutch transmission). Currently, Hector is available as a five-seater, while Hector Plus is a six-seater with captain seat. The 7-seater Hector will compete with the likes of the Tata Gravitas, 2020 Mahindra XUV500, and a Ford based on the new XUV500, once launched. The company would also undertake a price revision across its product range in view of the miscellaneous cost increase. "The price hike will range up to 3% depending on the model and will be applicable from January 1, 2021," MG said in a statement. MG currently retails three models in India – MG Hector, ZS EV, and Gloster.



Automotive news

Bosch bags orders worth EUR 2.5 billion for vehicle computers

Bosch has claimed to bag orders worth 2.5 billion euros' for its vehicle computers since last year. The Germany headquartered company said vehicle computers are central to its efforts to extend its leading role in software-intensive electronic systems, as high-performance control units will be a must-have for all cars in the future. "The market for these systems is worth some 20 billion euros, and is set to grow 15 percent annually between now and 2030," the technology major said in a statement. It is further added, that to meet this demand, the new Cross-Domain Computing Solutions division and its 17,000 associates will start operations in January 2021.



German solar company Solarwatt sees growth in electric car charging services

German residential solar battery maker Solarwatt is talking to a car manufacturer about a potential tie-up that would connect electric vehicles to its solar rooftop systems, CEO Detlef Neuhaus said. The CEO told Reuters that the company, one among the leading solar battery providers in Germany with a presence in several other countries, is expanding its manufacturing capacity and considering tie-ups with carmakers.

Automotive news

Global construction equipment market to reach USD 161 billion by 2027

With the increasing building activities, the global construction equipment market is projected to reach USD 160.84 billion by 2027, at a CAGR of 2.8%. According to a recent report by the Pune-based Fortune Business Insights, the US, India, and China account for 57% of the total construction equipment production. These three countries "will lead the growth trajectory of the industry in the coming years."

EV and ICE vehicle price gap to close soon as battery cost is about to be USD100/kWh by 2023: BNEF Report

The battery pack of an electric vehicle accounts for about 40%-50% of its cost. And this cost is the largest single factor in the price differential between electric vehicles (EVs) and internal combustion engine (ICE) vehicles. The scenario is set to change as the battery price has been declining steadily, and now it is at around USD 137/kWh, a fall of 89% from USD 1,100 /kWh in 2010. It will continue to fall further to USD 101/kWh by 2023.





Automotive Review

Introduction:

The Tata Harrier is a five-seater compact crossover SUV produced by the Indian Automaker Tata Motors. It was launched in the Indian market on 23 January 2019 and is positioned between the subcompact Tata Nexon and mid-size Tata Hexa which has been discontinued now due to BS6 norms.

H5X Concept:

During the development phase, it was previewed as the Tata H5X concept car. Then they named it Harrier for the production model. It is a (C segment) SUV based on the Omega- Arc platform which is a re-engineered version of the Jaguar Land Rover D8 platform which is used by the premium models like Range Rover Evoque, Discovery Sport, and Jaguar E-pace. This Omega- Arc platform compared to the original D8 has been redesigned to lower production costs by giving it different types of alloys on the chassis platform and rear suspension with a twist-beam scheme and pan hard rod with coil spring cheaper than the multilink than of the Jaguar and Land Rover Models. This is the main reason why Harrier became so famous within a short time. People also started to admire Tata for its wonderful work. To underpin a Jaguar and Landrover platform in a 25 lakh rupees cars. Full social media went crazy about seeing both the pre-production version and production version Harrier. Although the launch of the TATA Harrier made many Tata fanboys disappointed because of the low features available in Tata Harrier compared to its rivals like MG Hector, Kia Seltos, Hyundai Creta, XUV 500, Jeep Compass.



2019 Model:

By taking the customer reviews and public opinion, Tata re-launched the Tata Harrier as a facelift in 2020 by giving it more features like a panoramic sunroof, a new sportier (17 inches), alloy design, and the skid plates were revised. The side ORVMS were redesigned because in the previous generation, it was too big and that was a big blind spot for the drivers. A 6-way adjustable driver seat, Auto-Dimming IRVM, USB Charger, and all the ports were also re-positioned, the reason being in the last generation all these specifications were not easy to access. Last but not least, Tata tweaked their 140 PS engine to a 170 PS tuned engine 2.0-liter Multi-jet engine sourced by Fiat. So these were the changes made to Tata Harrier. To improve the sales, TATA also introduced a new Dark edition which is the fully blacked-out Harrier, which looks dope. Later they added a Camo edition also.

2020 Facelift Dark Edition Harrier:

Though Tata has made many changes to the 2020 Tata Harrier, it also has some pros and cons.

Pros:

- The striking USP feature is the stupendous design of Tata Harrier derived from Land Rover



- It underpins the body Omega- Arc platform which is derived from premium car brands like Jaguar Land Rover Evoque, Discovery Sport, and Jaguar E-Pace. On the whole, it is a smart looking Mini Land Rover.



- The remarkable rich and comfortable interior is exemplary. It has a very wide and tall cabin which makes the passengers feel comfortable and spacious which is an added advantage. It has a more spacious cabin than its contemporaries.



- The outstanding feature is the 14 ESP (ELECTRONIC STABILITY PROGRAM) modes which makes it stand out in this segment. Though being a front-wheel-drive car, the ESP management system enables Tata Harrier to do some small off-road patches easily without any trouble which is not easy with other front-wheel-drive SUVs..



It has got a powerful 170 PS engine. The power delivery is good and easily gives you the power to cruise at high speed or to overtake without any engine power lag. It is a pragmatically designed, decent car. They had given all the needed features instead of focussing on just the aesthetics.

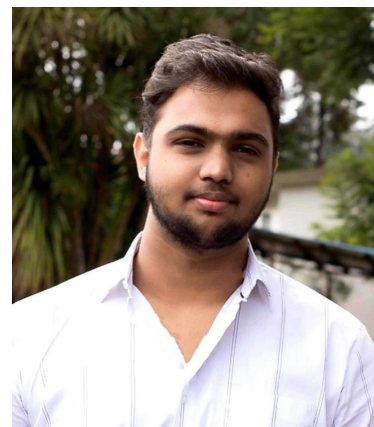
Cons:

- The first drawback of this model is its engine. Though the engine is powerful, it's not as refined as its rivals. The power is too raw and the engine feels rough to drive and the steering feels too heavy at low speed which makes it difficult to drive in cities.
- The NVH of the car is not that great. Lots of noise is heard in the cabin and the engine also generates noise at higher RPMs and high speed.

- The Manual gearbox is not a smooth-shifting gearbox. It needs great efforts to upshift and downshift it.
- Though the car looks stupendous and huge, it has got some ergonomic flaws like a big A-pillar which is a big blind spot for drivers. Reversing and parking this huge beast is a tough task. And it's a tough drive in crowded metropolitan cities.
- Though Tata Harrier is a well-loaded car, it doesn't come with features like connected car tech features, big infotainment screens, Remote engine can be started by your mobile phones, Air purifier, Front Row Ventilated seats, Voice-activated controls which are eagerly sought by some Tech loving customers. **VERDICT:**

VERDICT:

- Though the Tata Harrier has lots of pros and cons as every car does. It is an allrounder machine in its segment. It is more expensive than its rivals, but you will get what you pay for. Truly, it's a delight for SUV lovers.
- It is undeniable that this is the best MACHO looking beast in this segment.



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"The purpose of education is to make good human beings with skill and expertise... Enlightened human beings can be created by teachers"

- Dr. APJ. Abdul kalam

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