

# MExpress

Mechanical Engineering Department's Official Newsletter  
**VOLUME 05 - Issue 02**



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**OCTOBER 2021**

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## PERPETUAL MOTION MACHINES



**Mr. Nithesh S V**  
**20BME080**  
**2nd Mech. - B**

**Perpetual Motion:** Perpetual motion is defined as the motion that is a continuous motion without any pause or external energy. It is the action of the device, where if it is set in motion, it never stops and continues forever without any additional energy to monitor it. It is also stated that, this becomes impossible because the first and second law of thermodynamics gets violated.

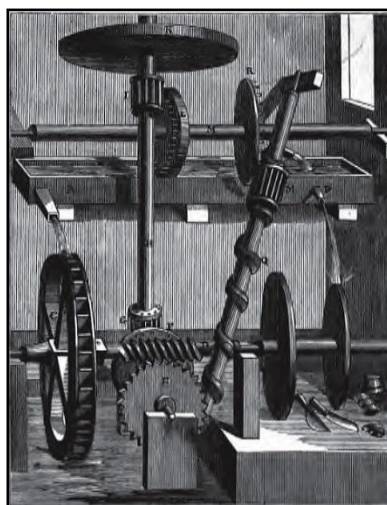


**Growth:** Although this is impossible according to the law, it made the inventors and other people to be more eager on this to invent more for many years. This machine gives a guarantee of giving virtually free and unlimited power source.

Types:

There are three kinds of devices. First is the device that help to deliver more amount of energy from a rotating or turning body, which is required to bring the device to the original state.

The oldest and the most common device is the Overbalanced wheel. In typical versions of devices, the flexible arms are attached in a vertically mounted wheel. There placed an inclined trough which helps in transferring the rolling weights from the arms on one side and to the extended arms on the other side.

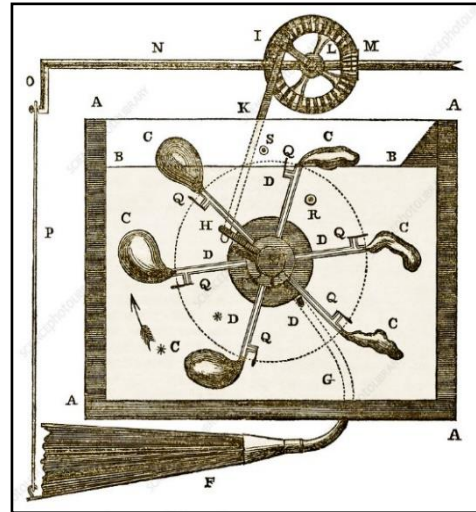




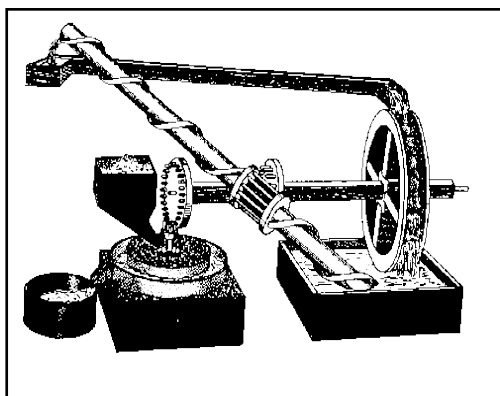
## Assumption:

Here, an assumption is made in such a way that, the weights exert a greater force towards the down which is required to raise them on the other side. Here, they are placed very close to the rotation axis by the folding arms. This assumption now ends up in violating the thermodynamic laws.

This first device was proposed by "Villard de Honnecourt" who was the 13th century French architect. But these were built up by "Edward Somerset" and "Johann Bessler". So, because of these two devices, they gave an unexpected outcome by running for long periods of time, but they were not able to run indefinitely.



The next unsuccessful moment while creating this is the 'Closed cycle water mill', which was given by "Robert Fludd". His thought was the energy created by flowing water in a wheel would result in producing more energy than the energy required to bring water back by the help of 'Archimedes screw'.



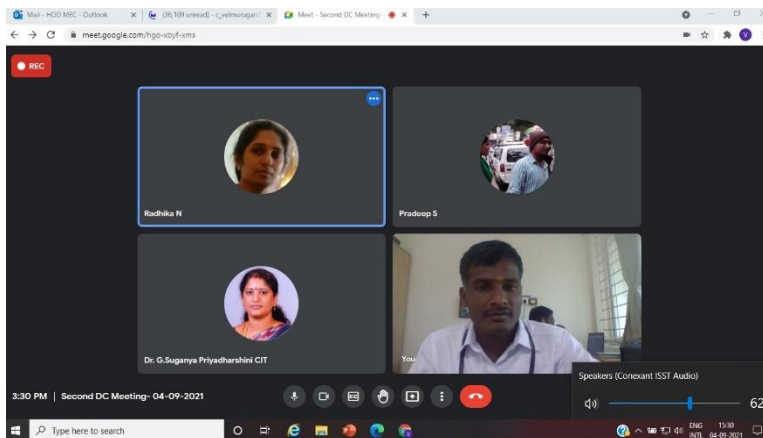
Second type of device began to violate the second law of thermodynamics, that few amounts of energy is lost in converting the heat into work. So, the failure was the 'Ammonia filled Zeromotor' which was discovered by "John Gamgee".

Third type was with a continuous motion machine with might become a possible one, by eliminating the mechanical friction and electrical resistivity. They can only be reduced but not eliminated completely. Here, the energy required to maintain is higher than the energy produced, so it was a failure.

## PROGRAMMES ORGANIZED



- A Doctoral Committee Meeting for Provisional registration was conducted on 09-04-2021 for the research scholar of **Dr. C. Velmurugan**, Professor and HoD/ME. Dr. G. Suganya Priyadharshini, Assistant Professor, Department of Mechanical Engineering, Coimbatore Institute of Technology, Coimbatore – 641014 and Dr. N. Radhika, Professor, Department of Mechanical Engineering, Amrita Viswa Vidyapeetham, Coimbatore- 641 112 were the committee member.



- A Webinar in collaboration with Institution of Engineers – India on “Mechanical Opportunities Expose to be an Entrepreneur” was conducted on 09-09-2021. Mr. D. Srinivasan, Managing Partner, Bascet Engineering, Coimbatore-641 029. **Dr. S. Balasubramanian**, Associate Professor coordinated the webinar.



- Dr. Balasubramanian** also organized an industrial visit to the II-year Mechanical Engineering PBL students on 17-09-2021. They visited M/s. High Precision Industries, SIDCO Industrial Estate, Coimbatore to gain knowledge of Metal cutting, material selection, tooling's, Quality control and safety aspects of the company.

- A Value added course on Application of Mechanical Engineering in Oil and Gas Industries to third and Second year Mechanical Engineering students was organized from 01.09.2021 to 21.09.2021. The course was handled by Mr. Chidambaram Subramanian, Senior Scientist, CSIR, Durgapur, West Bengal for 30 hours through online mode using Microsoft Teams. Totally 58 students attended and 50 students successfully completed the course.



**Dr. V. Manivelmuralidaran**, Assistant Professor - II and **Dr. A.P. Arun**, Assistant Professor – II coordinated the course.



- Under Mechanical Engineering Association, events on “Voice of the Brains” and “Tech-Chat” were conducted on 17-09-2021 and on 18-09-2021 respectively. **Mr. M. A. Vinayagamoorthis**, Assistant Professor – II and **Dr. V. R. Muruganantham**, Associate Professor coordinated the events.



- An Awareness Program on “GATE and its benefits & career opportunities” was conducted on 18-09-21 and 20-09-2021. Mr. V. Sathyamoorthy and Mr. R. Vivekanandhan, UNACADEMY were the resource persons. **Dr. M. Thirumalaimuthukumaran**, Assistant Professor – II, and **Dr. N. Sangeetha**, Sr. Associate Professor coordinated the program.



- Webinar series on Material Inspection - An interactive and effective session on advanced product design and development of Automotive Interior / Exterior plastic component trims” were conducted between 06-09-2021 and 08-09-2021. Mr. S. Roopan Sanjeev Raju, Business Development Manager, MACBRO R & D Centre, India & Japan was the chief guest for all the sessions. **Dr. V. Muthukumar**, Professor, **Dr. K. M. Senthilkumar**, Associate Professor & **Dr. S. Balaji**, Assistant Professor coordinated the event.



## FACULTY AS RESOURCE PERSONS



- **Dr. C. Velmurugan**, Professor & HoD/ME was the resource person for an Review of NBA SAR Document for Sakthi Polytechnic College during 08-09-2021 and 09-09-2021.

- **Dr. S. Bhaskar**, Associate Professor was the resource for a Training programme on “Outcome Based Education” for the 6<sup>th</sup> and 7<sup>th</sup> Online Faculty Induction Programme UGC - Human Resource Development Centre (UGC-HRDC) Sardar Patel University Mota Bazar, Opp. SICART, Vallabh Vidyanagar-388 120, Gujarat on 10.09.2021 and 11.09.2021 respectively.



- **Dr. R. Manivel**, Professor delivered a lecture on Subsea Systems in oil and gas industry for SEA, Cameron -Schlumberger, Coimbatore on 18-09-2021, 19-09-2021 and on 25-09-2021.

- **Mr. P. D. Devan**, Assistant Professor, delivered lecture in Wisdom Shift Session for KCT-MEA on 20-09-2021.



- **Mr. P. Pradeep**, Assistant Professor was the resource person for an Review of NBA SAR Document for Sakthi Polytechnic College on 09-09-2021.

- **Dr. S. Balasubramanian**, Associate Professor, delivered lecture on “Planning of Experiments” for Dr. NGP Institute of Technology, Coimbatore on 25.09.2021. He also delivered a lecture on “Parameters in DoE” for KGISL Institute of Technology, Coimbatore on 30.09.2021.





## PAPERS REVIEWED

- **Dr. B. N. Sreeharan**, Assistant Professor – II, reviewed a paper “Validation of evaporation-determined model of arc-cathode coupling in the peak current phase in pulsed GMA welding” for the Scopus indexed International Journal of Physics D: Applied Physics.



## BOOK CHAPTERS PUBLISHED

- **Dr. K. M. Senthilkumar**, Associate Professor along with **Dr. V. Muthukumaran**, Professor and **Dr. S. Balaji**, Assistant Professor published a chapter titled “Overview of Stepper Motors” in the book “The Opportunities of Uncertainties: Flexibility and Adaptation Needed in Current Climate - Volume II (ICT and Engineering)”, Lulu Publication, 3101 Hillsborough St, Raleigh, NC 27607, United States. ISBN: 978-1-300-39582-9



## INDUSTRY LINKAGE



- **Dr. R. Manivel**, Professor and **Dr. S. Balasubramanian**, Associated Professor visited M/s. Messer Cutting Systems, Malumichampaati, Coimbatore and discussed with Mr. Mani Narayan, MD for the collaborated activities between KCT and industry. An MoU with suggested activities submitted to industry for their approval.



## AWARDS RECEIVED

- **Mr. B. Jeeva**, Assistant Professor received the two awards, “Award of Merit- Teaching” and “Award of Merit- Institutional Development” from Kumraguru College of Technology, Coimbatore” on 15.09.2021.



- **Mr. S. Subbiah**, Assistant Professor received Merit of Award for Student Development and Merit of Award- Engal Asan for 2020-21 academic year - Teachers Day celebration Sep 15th, 2021.



## PROGRAMMES ATTENDED



- **Mr. S. Thirumurugaveerakumar**, Associate Professor participated in an Workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2022 to 19-09-2022, organized by KLDA-KCT, KCT.

- **Mr. S. Sivakumar**, Assistant Professor - II participated in a workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT. He also participated in an ATAL-FDP on "Assessment and utilization of Renewable Energy Sources" from 13-09-2021 to 17-09-2021, organized by GCE-Palanpur, Gujarat.



- **Mr. S. Rajesh**, Assistant Professor participated in an FDP on "Engineering Graphics" from 30-08-2021 to 03-09-2021, organized by Velammal Engineering College, Chennai.

- **Mr. P. Pradeep**, Assistant Professor participated in an FDP on "Engineering Graphics" from 30-08-2021 to 03-09-2021, organized by Velammal Engineering College, Chennai.



- **Mr. P. D. Devan**, Assistant Professor participated in a Workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT. He also participated in an ATAL-FDP on "Stress busting meditation sittings" from 20-09-2021 to 24-09-2021, organized by NIT , Arunachal Pradesh.



- **Mr. M. Thirumalaimuthukumaran**, Assistant Professor - II participated in a Workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT.



- **Mr. M. A. Vinayagamoorthis**, Assistant Professor - II participated in a Webinar on Functional Materials for Heterogeneous Catalysts." on 29-09-2021. He also participated in a workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT.

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- **Dr. V. R. Muruganantham**, Associate Professor participated in a Workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT.

- **Dr. V. Manivelmuralidaran**, Assistant Professor - II participated in an FDP on "Advanced Manufacturing Technology" from 13-09-2021 to 18-09-2021, organized by SRM Institute of Science and Technology, Chennai.



- **Dr. T. Karuppusamy**, Assistant Professor - II participated in a Webinar on "Opportunities for Engineers from all domains in Electric and Hybrid Vehicle Industry" by Tapan Rath, Ex-Project Head, Tata Motors." on 24-09-2021, organized by Tapan Rath, Ex-Project Head, Tata Motors. He also participated in a workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT.

- **Dr. S. Sivakumar**, Assistant Professor - III participated in a Workshop on "Effective Research Paper Drafting FOR publication" from 18-09-2022 to 19-09-2022, organized by KLDA-KCT, KCT.



- **Dr. S. Bhaskar**, Associate Professor participated in a workshop on Design and Implementation of OBE based Curriculum" (02 days) arranged by KLDA - KCT" from 17-09-2021 to 18-09-2021, organized by KLDA - KCT, KCT.

- **Dr. R. Manivel**, Professor participated in an Workshop on “Revised Blooms Taxanomy” (02 days) arranged by KLDA - KCT” from 17-09-2021 to 18-09-2021, organized by Institute of Education and Life Skills, Dr.Job Kuruvilla , Director , Thought Links .



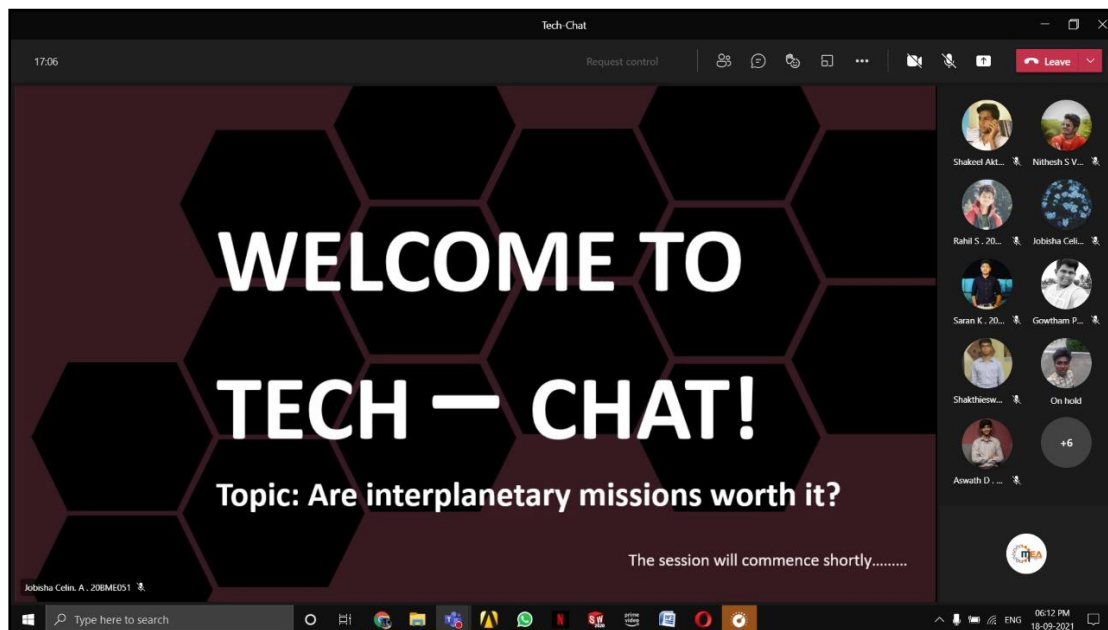
- **Dr. K. M. Senthilkumar**, Associate Professor participated in a Workshop on “How to Publish Scholarly Books in Science and Technology-” on 22-09-2021, organized by Taylor and Francis, 11 Main Street, Germantown, NY 12526, USA. He also participated in an Workshop on “Revised Blooms Taxanomy” (02 days) arranged by KLDA - KCT” from 17-09-2021 to 18-09-2021, organized by Institute of Education and Life Skills, Dr.Job Kuruvilla, Director, Thought Links.

- **Dr. B. N. Sreeharan**, Assistant Professor - II participated in an Webinar on “Time Management” on 04-09-2021, organized by Nehru Institute of Engineering and Technology, Coimbatore and a STTP on “Recent Trends in Manufacturing Industries” from 30-08-2021 to 09-04-2021, organized by Navachana University, Gujarat and an FDP on “Advanced Manufacturing Technology” from 13-09-2021 to 18-09-2021, organized by SRM Institute of Science and Technology, Chennai. Dr. Sreeharan completed Online Courses on “Business Analysis Basics” from 01-09-2021 to 02-09-2021, “Excel Dashboard for Beginners” from 13-09-2021 to 14-09-2021, “Introduction to Data Science” from 15-09-2021 to 18-09-2021, organized by Simplilearn, Online Platform. Dr. Sreeharan, also completed a Certification on “CSWA - Additive Manufacturing” from 15-09-2021 to 19-09-2021, organized by Dassault Systems.



## TECH CHAT

In these times of trials, we don't see a lot of interaction between students among themselves in online mode of learning. TECH-CHAT is a new initiative ideated by MEA to bring forth, the peer learning, improve spontaneous speech and to develop good communication skills. This all-in-one, one-of-a-kind sessions was held on 18th, September 2021. The session, started at 18.00 IST, was moderated by Mr. Kishore Krisna S of 3rd year, Department of Mechanical Engineering, Jobisha Celin A of 2nd year, Department of Mechanical Engineering and Shakeel Akthar S of 2nd year, Department of Mechanical Engineering. This Event was organized under the guidance of Dr. V R Muruganantham, AP and Mr. M A Vinayagamoorthis, AP (II).

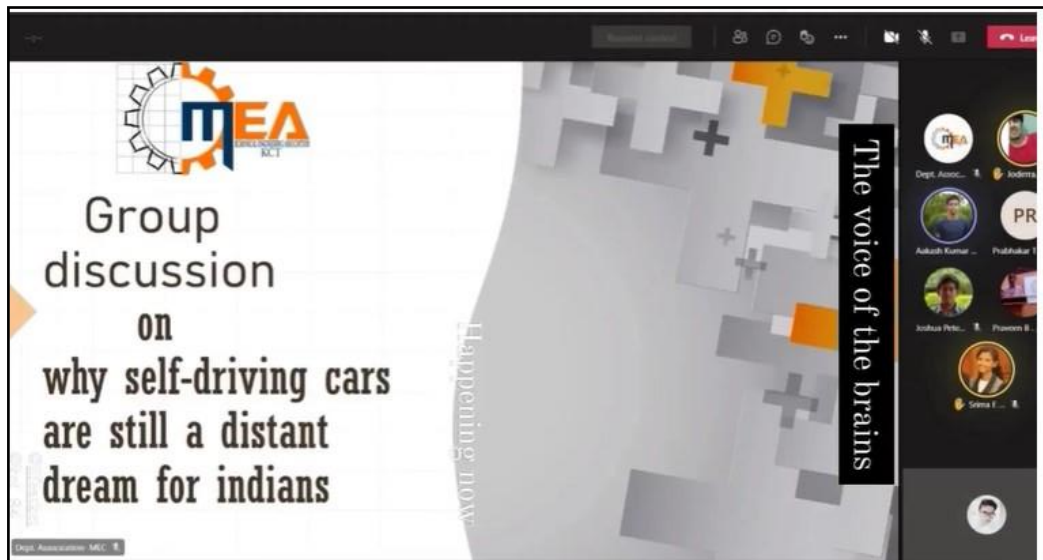


This first session was exclusively conducted for 2nd year Mechanical Engineering students and the students participated in a lively manner. The students put forth their views on the topic "are interplanetary missions worth it?". The main outcome of the program was to make the students to see things in a different perspective and to learn things in all angles to achieve wholesome learning. During the session the students were very much interactive and answered all the questions that were posed to them at the same time they maintained decorum.



## THE VOICE OF THE BRAIN

Be a listener, Be a better speaker! The aim of argument, or of discussion, should not be victory but progress. Our best comes out when we have an honest discussion, and a good Conversation increases the dimensions of everyone who takes part.



The voice of the brains is an event conducted on 17th September 2021. It's like a Group Discussion started at 18.00 IST, especially for the 2nd years of KCT Students. The session was moderated by Mr. Aswin Baalaje of 3rd year, Department of Mechanical Engineering and Aakash Kumar V of 2nd year, Department of Mechanical Engineering. The students put forth their views on the topic "WHY SELF-DRIVING CARS ARE STILL A DISTANT DREAM FOR INDIA". Interested Students of various departments participated to enrich their communication skills and their knowledge. This Event was organized under the guidance of Dr. V R Muruganantham, AP and Mr. M A Vinayagamoorathi, AP (II).



**Mr. Sreejith Ravichandran – (18BME082)** of final year Mechanical Engineering B section attended an International Event named as **“Innoculture ideation contest”** organized by Mars Society South Asia from 26/06/2021 to 06/09/2021.



**Mr. Aakash Kumar V – (20BME002)** of Second year Mechanical Engineering A section attended an International Event named as **“International Rover Design Challenge”** organized by Innoculture from 20/08/2021. Now he Selected for second round which is a video presentation round.



**Mr. Imayan K T – (20BME045)** of Second year Mechanical Engineering B section attended an International Event named as **“IEEE YESIST-12”** organized by IEEE from 01/09/2021 to 19/09/2021. He and His team got selected to the final round of the project presentation competition.



**Mr. Barani M – (19BME091)** of Third year Mechanical Engineering B section attended some webinar named as **“Powertrain, Brake and Steering (ATV)”** on 03/09/2021, **“Electrical ATV Powertrain calculations”** on 04/09/2021, **“DVP, DFMEA, Gantt Chart”** on 05/09/2021, **“CAD Design (ATV chassis Frame)”** on 06/09/2021, **“ATV Business Plan Presentation”** on 07/09/2021 organized by **INFI LEAGUE MOTORSPORTS**. He also attended some Workshop named as **“Baja Buggy Chassis Frame Design Parameters”** on 15/09/2021, **“Baja Buggy Suspension System & Mechanism”** on 16/09/2021, **“Baja Buggy Steering System & Mechanism”** on 17/09/2021 organized by **Archilles Racing Club (ARC)**.



**Mr. Idhaya Raja – (19BME072)** of Third year Mechanical Engineering B section attended a Webinar on 21/08/2021 named as **“Role of chemistry in nuclear energy”**.

**Campus Talent:** Idea/Project Symposium (National Level Event) 2021

**Lat Date to apply:** 10/10/2021

**Reward:** Award + E-Certificates + Cash Prize/Prize



**IDEA PRESENTATION** **PROJECT DEMONSTRATION** **QUIZ IN TECHNOLOGY**

**Campus TALENT**  
#InspirewithInnovation  
**16<sup>th</sup> & 17<sup>th</sup> Oct 2021**  
**Register Now!**  
[www.bit.ly/pccampustalent](http://www.bit.ly/pccampustalent)

**Focus Areas for Campus Talent:**

- Food Technology
- Agriculture & Smart Irrigation
- Clean Water and Sanitation
- Children and women Safety
- Robotics and Automation
- Electric Vehicle and Battery Technology
- Smart Cities & Transportation
- Space Science
- Any other

**WORKSHOP**  
ANDROID APP FOR ARDUINO

**Workshop - Topics:**

- Introduction to Embedded Development Board – Arduino
- Hands-on programming with Arduino IDE
- Introduction and dealing with Sensors
- Creating our own Android app using Kodular
- Projects: Mobile Finger print sensor controlled door lock system & Control the digital pins using Android App.

**Rules & Guidelines:**

- Individual or a team of max 4 members can participate
- Entire paper/ppt with max length of 6 pages/10 slides with size less than 2MB to be submitted in the Registration Link (if available)
- Payment can be made in the given UPI ID or NEFT and the Screenshot to be submitted in the Registration Link
- Students will be connected in Whatsapp Group for further proceeding

**Last Date to Apply : 10<sup>th</sup> October 2021**

**PAYMENT**

Payable at :  
Canara Bank  
A/C No : 1225101048943  
IFSC : CNRB0001225

**REGISTRATION**

UPI ID : 8015368752  
[www.upi.com/8015368752](http://www.upi.com/8015368752)

CATEGORY	INDIVIDUAL	TEAM
Idea Presentation + Workshop + Quiz	250 INR (Per Member)	200 INR (Per Member)
Idea Presentation Only	200 INR (Per Member)	175 INR (Per Member)
Quiz Event Only	50 INR (Per Member)	-
Workshop Only	100 INR (Per Member)	-

## INTRODUCTION:

Campus Talent with a tagline #inspirewithinnovation is an Idea/Project Symposium Event Organized by Projectcontest.com in association with AIIRF- Annamalai Innovation & Incubation Research Foundation, Axis Global Automations-AGIIT, Enthu Technology Solutions India Pvt. Ltd., Nandha InfoTech, Einstein Industries, Trueline Academic & Research Centre, EDiyLabs Technological Solutions & Dream360 to bring out Ideas/Solutions for problems and nurture innovative skills among Indian students pursuing degree in colleges.'

**Registration Link:** <https://bit.ly/pccampustalent>

**EVENT DATE:** 16th & 17th October 2021

**WHO CAN ATTEND:** All College Students Can Apply



## Planetarium Innovation Challenge by GOI

### About the Contest:

India has made great strides in space research under the able leadership of Indian space scientists and today ISRO is considered the most capable and competitive space agency, compared to the best in the world. India's space missions have sparked increased interest among students and young people in space research and understanding to learn more about outer space.

Planetariums in subways and other large cities attract many students and offer a first exhibition to learn more about Space. Efforts have been made to increase the availability of planetariums in small towns and even in rural areas. Around the world, efforts have been made to integrate augmented reality (A.R.), virtual reality (V.R.) and merged reality (M.R.) technologies into planetariums. Mobile planetariums have also become popular and offer people in rural areas the opportunity to experience a planetarium. Several Indian start-ups and tech companies have the potential to create such AR / VR / MR solutions as well as mobile planetarium solutions. With the aim of recognizing the best Indian solutions of this type, MyGov, under the leadership of the Department of Electronics and Information Technology (MeitY), the Indian government, invites applications from Indian start-ups and technology entrepreneurs for an innovation challenge aimed at developing cutting-edge technology for our Planetariums. The selected solutions will not only receive cash rewards, but also the possibility to deploy them in various cities and rural areas by listing them on the GeM portal.

**EVENT LINK:** <https://innovateindia.mygov.in/planetarium-innovation-challenge/Data Science with Machine Learning Techniques Using Tensorflow-Internship cum Training>

**Last date to Enrol:** 26th September 2021

**Registration Fee:** INR 1200

First International Conference on Green Economy for sustainable growth in Commerce, Science, Technology, Engineering and Management ICGCSTEM 2021, Nava Samaj Mandal Degree College Mumbai and RSP Conference Hub Coimbatore, International Conference, Mumbai, Maharashtra, 9th - 10th October 2021

**Category:** International Conference

**Start Date:** 9th October 2021

**End Date:** 10th October 2021

**Organiser:** Nava Samaj Mandal Degree College Mumbai and RSP Conference Hub Coimbatore

**City:** Mumbai

**State:** Maharashtra

**LINK:** <https://www.rspconferencehub.com/>

**DESCRIPTION:** The First International Conference on Green Economy for sustainable growth in Commerce, Science, Technology, Engineering & Management (ICGCSTEM - 2021) - (Online)

**CHIEF PATRONS:**  
Shri. Ashok J. Kothari (Chairman, NSM College)  
Mr. Vinay Joshi (Secretary, NSM College)  
Mr. Dipan Shah ( Trustee Member, NSM College)  
Mr. Pranit Gandhi ( Trustee Member, NSM College)

**PATRON**  
Mrs. Dr. Pratibha Jha (I/C Principal, NSMDC)

**CONFERENCE CONVENERS:**  
Mrs. Dr. Pratibha Jha (I/C Principal, NSMDC)  
Dr. R. Ranjith, Editor in-chief, IRJASH  
Mr. C. Somu, Publication Head, IRJASH  
Mr. T. Pravin, P.R.O, RCH  
Mr. M. Saravana Kumar, Head, RCH

**ORGANIZING COMMITTEE :**  
Mrs. Dr. Pratibha Jha (I/C Principal, NSMDC)  
Dr. Bhakti Mehta (NSM College)  
Mrs. Bina Iyer (NSM College)  
Ms. Vruti Chavda  
Mr. Sanjay Pawar  
Ms. Sona D. Solanki, Deputy Head, RCH

**JOINTLY ORGANIZED BY :**  
Department of Commerce ,  
NSM Degree College, Vile - Parle, Mumbai, India &  
RSP Conference Hub, Coimbatore, India.

**FOR REGISTRATION**  
[tinyurl.com/ICGSTEM2021](http://tinyurl.com/ICGSTEM2021)

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**Website**  
[www.rspconferencehub.com](http://www.rspconferencehub.com)  
[www.nsmcd.edu.in](http://www.nsmcd.edu.in)

  
**NSM Degree College, Vile - Parle,  
Mumbai, India &  
RSP Conference Hub, Coimbatore, India.**

First International Conference on  
Green Economy for sustainable growth in Commerce,  
Science, Technology, Engineering & Management

Theme of the Conference  
Science & Technology and Commerce  
(Topics Not Limited To...)

  
**09<sup>th</sup> & 10<sup>th</sup>  
OCTOBER 2021  
ICGCSTEM  
2021 Online**

## **ABOUT THE INTERNSHIP CUM TRAINING PROGRAM:**

ProjectContest.com (Project Contest Innovations LLP) in association with various Industries across India has taken the initiative to provide the Training cum Internship on the emerging areas to students, faculty, research scholars & start-ups for enhancing the skills for Employability & Entrepreneurship. So far through this initiative over 1000+ students from 70+ institution got benefited. In this regard now ProjectContest.com with Nandha InfoTech has planned to provide a 2-month(60 days) Training cum Internship focusing on "Data Science with Machine Learning Techniques Using Tensorflow".

## **ABOUT INDUSTRY:**

Nandha Infotech a Web design company in Coimbatore who follows customer centric approach to business and website creation and ensure that our customers make money out of their solutions provided. Nandha Infotech is an ISO 9001:2015 certified company owned by a World Record Holder. Nandha Infotech not only develops software but also trains fresh minds of the society in various streams. Thus far, we have trained more than 1,00,000 youngsters around the world, making various achievements in various streams till date.

**Website:** [www.nandhainfotech.com](http://www.nandhainfotech.com)

**SOFTWARE TO BE USED:** Tensorflow

**Registration Link:** <http://bit.ly/nandhadsml>



## CONFERENCES:

3rd international Conference on Current Research in Engineering and Technology  
3rd ICCRET 2021, IIRM-SDT, International Conference, Chirala, Andhra Pradesh, 10th October 2021

- **Category:** International Conference
- **Start Date:** 10th October 2021
- **End Date:** 10th October 2021
- **Organiser:** IIRM-SDT
- **State:** Andhra Pradesh

**LINK:** <https://www.iirmsdt.org/>

## DESCRIPTION:

3RD INTERNATIONAL CONFERENCE ON CURRENT RESEARCH IN ENGINEERING & TECHNOLOGY -3RD ICCRET-2021:GOOGLE MEET which will be held on 10-OCTOBER-2021. The Conference

will be organized Digitally. The Object of the 3RD ICCRET-2021 is to present the Current Research techniques in Engineering Technology and in all branches (Engineering, Science & Technology, Pharmacy, Management, Humanities, and Arts & Sciences. The organizing committee of the conference is pleased to invite prospective authors to submit their original manuscripts to the 3RD ICCRET-2021. All full paper submissions will be peer-reviewed and evaluated based on originality, technical and/or research content/depth, correctness, relevance to conference, contributions, and readability. Paper-ID will be provided to each paper for further reference after selecting it.



**IIRM**



ज्ञान - विज्ञान विमुक्तये  
UGC Approved Journals  
UGC, New Delhi, India

Q1/Q2/Q3/Q4 Journals




**3RD INTERNATIONAL CONFERENCE ON CURRENT RESEARCH IN ENGINEERING & TECHNOLOGY -3RD ICCRET-2021**  
**On**  
**DATE: 10-OCTOBER-2021::GOOGLE MEET:: 9 AM**

**Keynote Speaker**



**Dr. Appa Rao Vegi**  
 Professor of Physics,  
 Dept. of Freshman Engineering,  
 Institute of Aeronautical Engineering,  
 Hyderabad, Telangana State, India.  
 • Recipient of ONE OF "THE BEST PROFESSOR AWARD-2020"

**Technical Chair**



**Dr. Balamuralikrishna Potti**  
 Professor, Dean R&D,  
 Chalapati Institute of Technology, Guntur, Andhra Pradesh, India

**Session Chair**



**Dr. AJESH F**  
 Associate Professor,  
 Dept. of CSE,  
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## IMPORTANCE OF MATERIAL SELECTION IN MANUFACTURING



**Mr. Kishore Krishna S**  
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### WHY MATERIAL SELECTION?

Material selection is one of the most essential requirements in every manufacturing process. The different branch of engineering relies on material selection as it is a core process. Without selecting the suitable material, it is impossible to produce a desirable output. Understanding the process used in material selection will enhance the process of engineering design analysis which in turn will reduce cost and accelerate the development schedule and provide the project best chance of success.

### BASIC REQUIREMENTS FOR MATERIAL SELECTION:

There are many factors that governs the selection of material. One must test their material with different factors available in the field of manufacturing. Some important factors include the

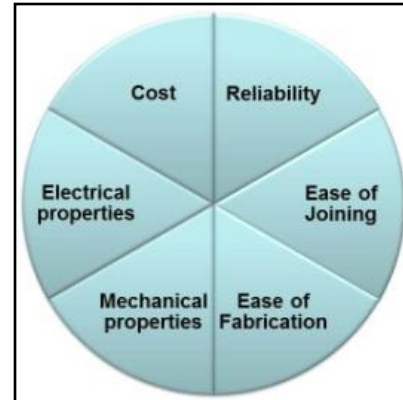
1. Structure
2. Unique properties
3. Unique applications
4. Durability
5. Environmental impact.



## MAJOR FACTORS THAT AFFECT MATERIAL SELECTION:

Product developers must look on through the various properties and factors that affect the material. Since material selection is a complex process, any failure in the selection of the suitable material will result in failure of the entire product. Here are some of the major factors that affect material selection:

1. Stress
2. Action of different loads
3. Wear and tear
4. Thermal properties
5. Physical properties
6. Environmental sustainability
7. Cost and availability of material.



## BASIC STEPS IN MATERIAL SELECTION:

Here are some of the basic steps that is involved in material selection:

1. Identify the basic requirements.
2. Identify the material selection criteria
3. Identify candidate materials
4. Evaluate candidate materials
5. Select the best material.

## CONCLUSION:

In this article the importance of material selection and the important factors that governs the material selection process is explained. The best material among the different alternative available is to be selected and the prototype is designed to certain specifications. The material must be selected by focusing the best among the different alternative. Several key factors is to be considered in every step. Hence this is a base for the entire product development process.

## THE SUPER GLUE



**Mr. S. Jayabalu**  
**19BME219**  
**3rd Mech. - A**

Although humans have been trying for decades to create adhesives that stick underwater, muscles have been doing it for hundreds of millions of years. They attach themselves to rocks or to each other by rigid threads called byssal threads. Each thread contains a lung plaque “plaque”, which contains a combination of proteins that eventually give the muscles amazing adhesive properties.

Before it can make the paisley threads, a bat's foot pulls the snake out of its shell and looks for a suitable place to stick. When the foot is ready to attach, it secretes a series of fluid proteins in a certain order, which solidify rapidly.

Some, often collagen (the same protein that stretches the skin), becomes a thin but strong thread. Others form a rough protective coating around both the plate and the thread. And a few proteins form the adhesive and the anchor plate.

What makes these proteins so sticky is that they contain high concentrations of a special molecule called L-3, 4-dihydroxyphenylalanine or tuba. Tuba adheres very easily to many surfaces, including the famous adhesive, such as Teflon, because of how chemically it binds to them. Each molecule has side chains that share electrons with rock surfaces, forming amazingly strong bonds.



But just like the primer you must apply to wood before you paint it, scientists have recently discovered that another protein, lysine, helps prepare the wet surfaces for dopa.





The surfaces of most rocks have a negative charge. Like with magnets, opposites attract, and the positively charged ions of salts dissolved in ocean water bind with and coat the negatively charged rock surfaces, making them unreceptive to most types of adhesives. Lysine, however, is positively charged. When it approaches positively charged ions on rocky surfaces, it pushes them out of the way, like a magnet turned the wrong way, clearing a path for clingy dopa to latch on.

The lysine-dopa interaction by itself does not always produce as strong of an adhesion as expected though. Researchers have found that the proximity of dopa, lysine, and water molecules inside the adhesive plaques affects the strength of the chemical bonds



between different parts of the dopa molecule. When dopa and lysine are close together, the concentration of water molecules around dopa decreases, which lowers the structural stability of the adhesive complex. A slight separating of lysine and dopa helps to balance forces and maximize bonding.

Developing underwater adhesives, of course has many maritime applications. But artificial mussel glues might also save lives. Because bodily fluids also contain salts, similar adhesives could result in new methods for closing wounds and incisions. Mussel adhesives might also transform surgery on babies in the womb, enabling surgeons to reseal incisions in the amniotic sac, which is too fragile for traditional suturing or other techniques.

Mussel-based adhesive could also help preserve our oceans. Coral reefs provide food and shelter to 25% of ocean species, yet they face serious risks of global extinction. Restoring reef can involve transplanting thriving sections to less healthy areas, but they need a biofriendly glue to fix them in place. Mussel proteins might just be the missing link.

## MAHINDRA XUV 700



**Mr. Nithesh S V**  
**20BME080**  
**2nd Mech.- B**

### Mahindra:

Mahindra is one of the successful brands in the Indian Car market. It is a Billion-dollar global enterprise headquartered in India, which is driven by innovation & compassion. They have successfully launched many wonderful cars in the Market and running till now. At present, Mahindra & Mahindra has planned to launch all new “XUV 700” in the upcoming month. And compared to all other cars, the wait and expectation is more now. Let’s see about it.

### XUV 700:

This car’s facelift profiles clearly say that it brings up a new generation design, with the change in LOGO design, the aggressive looks, and so on.... This car is the very first one to come up with the new brand LOGO. This is a massive 7-seater SUV with a lower price than comparing to other cars.



### Looks:



First thing to be noticed is, each small works on the design side is fully designed based on aerodynamics. The front grill just swipes apart to make the air flow through. The placement of the LED headlamps along with DRL’s resemble like a Canine tooth, along with the fog lamps placed in the lower half of the bumper. Coming to the side view, it almost resembles the XUV 500, so it can also be said as the upgraded XUV 500 by seeing sideways. It gets the “Five twin spoke” alloy wheels, which is finished in a dual tone. The very most attracted part is the Door handles, since they are a flush type one, which this SUV gets first in Mahindra.



## Specifications:

The most attractive side is the instrument cluster and the infotainment system. There are lots and lots of features to be mentioned but the most highlighting are, it has dual zone climate control, Wi-Fi, Alexa, voice commands, Massive panoramic sunroof, Adernox AI system.



## Models:

It comes up in 5 models, which include 5-seater, 7-seater, diesel and petrol engines, manual and automatic transmissions. The petrol engines come with MX, AX3, AX5 variants. The diesel engine comes with MX and AX7 variants.



On an average the car comes with a power ranging from 153 – 197 bhp and a torque of 360 to 380 Nm. The engine CC ranges from 1997 to 2184 cc.



## Company words:

A federation of companies, bound by one purpose – to Rise. Inspired by this spirit, our legacy and values, our goal to always impact our partners positively, stakeholders, communities, and the world at large, remains unshakeable.



**KUMARAGURU**  
college of technology

COIMBATORE – 641 049

**Department of Mechanical Engineering**

**INSTITUTE VISION:**

The vision of the college is to become a technical university of International Standards through continuous improvement.

**INSTITUTE MISSION:**

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic, and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

**DEPARTMENT VISION:**

To emerge as a centre, that imparts quality higher education through the programme in the field of Mechanical Engineering and to meet the changing needs of the society.

**DEPARTMENT MISSION:**

The department involves in sustained curricular and co-curricular activities with competent faculty through teaching and research that generates technically capable Mechanical Engineering professionals to serve the society with delight and gratification.

**B. E. MECHANICAL ENGINEERING**

**PROGRAM EDUCATIONAL OUTCOMES (PEO's):**

- PEO 1 :** Graduates will take up career in manufacturing and design related disciplines.
- PEO 2 :** Graduates will be involved in the execution of Mechanical Engineering projects.
- PEO 3 :** Graduates will take up educational programme in mastering Mechanical sciences and management studies.

**PROGRAM OUTCOMES (PO's):**

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.



4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
6. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
7. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
8. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
9. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

#### PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.

#### M. E. INDUSTRIAL ENGINEERING

#### PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- PEO 1 :** Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.
- PEO 2 :** Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.
- PEO3 :** Graduates would function as educators or researchers in academic institutions.

**PROGRAM OUTCOMES (PO's):**

- P01** : An ability to independently carry out research /investigation and development work to solve practical problems.
- P02** : An ability to write and present a substantial technical report/document.
- P03** : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

**PROGRAM SPECIFIC OUTCOMES (PSO's):**

- PS01** : Graduates able to apply the engineering management and data management concepts in industrial engineering areas.
- PS02** : Graduates able to apply industrial engineering skills and knowledge to manage the functions of production and supply chain management.

**M. E. CAD/CAM****PROGRAM EDUCATIONAL OBJECTIVES (PEO's):**

- PE01** : Graduates excel in Professional career and/or higher education or/ research by continuously updating the knowledge and skill in the fields of Computer Aided Design and Manufacturing.
- PE02** : Graduates can analyze the complex problems using advanced modelling and analysis tools and thereby solve problems related to product design and manufacturing area.
- PE03** : Graduates work individually and in a team with effective communication skills and pursue lifelong learning.

**PROGRAM OUTCOMES (PO's):**

- P01** : An ability to independently carry out research /investigation and development work to solve practical problems.
- P02** : An ability to write and present a substantial technical report/document.
- P03** : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

**PROGRAM SPECIFIC OUTCOMES (PSO's):**

- PS01** : Graduates will be able to apply the knowledge and skill in solving the real-time problems in the Computer Aided Design and Manufacturing field.
- PS02** : Graduates will be able to analyse complex problems and provide solutions using advanced tools in product design and manufacturing area.