

MEXPRESS

Mechanical Engineering Department's Official Newsletter

Volume No. 06 Issue No. 08

For Internal Circulation Only

APRIL 2023



REACH US AT



KUMARAGURU
college of technology
character is life

Mechanical Engineering Association
DEPARTMENT OF MECHANICAL ENGINEERING



EDITORS



Dr. C. Velmurugan
Professor & Head



Dr. B. N. Sreeharan
Assistant Professor - II

ASSOCIATE EDITORS



Mr. S. V. Nithesh



Mr. R. J. Yuhendran



Mr. K. V. Vijay Adithya



Ms. Jobisha Celin

CONTENTS

Details	Page No.
Editors' Portfolio	4
Associate Editor's Portfolio	5
Programmes Organized	8
Resource Persons	9
Papers Presented	9
Papers Published	9
Manuscripts Reviewed	10
Post Doctorate Completion	10
Industry Linkages	10
Seed Money	10
Patent Filed	11
Programmes Attended - Faculty	11
New Equipment Purchase	12
Snapshots	12
KUMARAGURU – FOKAM INTRODUCTION TRAINING (K-FIT) - A Report	16
Student Achievement	27
Opportune 2022 – 2023	29
Vision, Mission, POs, PSOs and PEOs	31

From the Editors...

Dear Readers,

Over the past year, our team has been tirelessly working on various initiatives and programs aimed at enhancing the quality and relevance of our publication. The Associate Editor's Portfolio encompasses the article "Strictly Turbulence" (Part – 7).

We have also been fortunate to have our renowned faculty members as resource persons who have enriched our publication with their expertise and knowledge. Our faculty members have also been actively involved in reviewing manuscripts to ensure the rigor and validity of the research publications.

In addition, one of our faculty members has successfully completed a Post Doctorate program, demonstrating a strong commitment to academic excellence and professional development. Furthermore, our department has forged strong linkages with industry partners, facilitating meaningful collaborations and knowledge exchange between academia and industry.

We are also proud to share that our department has secured seed money for research projects and filed patents, showcasing our commitment to innovation and intellectual property. Moreover, our faculty members have attended various programs to enhance their skills and knowledge, and the department have made strategic purchases of new equipment to augment our research capabilities.

We are pleased to provide snapshots of our achievements, including the successful completion of the KUMARAGURU – FOKAM INTRODUCTION TRAINING (K-FIT) program, which has been a significant milestone in our pursuit of excellence.

Furthermore, our publication has also witnessed notable student achievements, showcasing our commitment to nurturing and recognizing talent. We express our heartfelt gratitude to our team, contributors, and readers for their unwavering support and look forward to their continued engagement in our academic endeavours. Thank you for your continued support.

Best regards,

Editors....



STRICTLY TURBULENT – Part 7

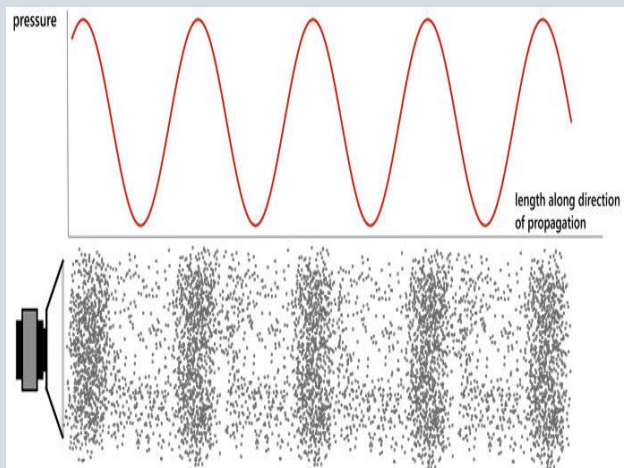
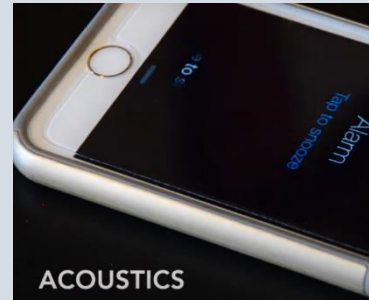


Ms. Jobisha Celin
20BME051
3rd year mechanical - B

This issue of strictly turbulent is inspired by a video describing fluids and their interaction in the day to day life of a human. The issue will dive deep into what those phenomena mean in layman's terms

ACOUSTICS:

We know that acoustics have something to do with sound and its properties. Sound propagates through waves and there is no medium in vacuum to hear sound. So what does it have to do anything with fluid like air. Sound waves are mechanical pressure waves meaning they compress and refract air in the direction of the propagation.



[Pressure waves](#)

As the name implies, they change the pressure of the fluid as they move forward. Okay so what it has to do with the study of fluids.

Imagine a pressure drop that is bad for a fluid system say cavitation occurs, this is due to the pressure drop below the vapour pressure of the liquid causing local boiling in a system, right, when we send a pressure wave at the point where there is a change in the pressure, it behaves differently, thereby we'll know that there is something wrong inside. This is one example.

Next is, Fluid structure interaction. Yeah, Tacoma bridge collapse, aeroelastic flutter: the word itself seems complex.

Chatgpt says this "It is a self-excited vibration that can lead to catastrophic failure if not properly understood and addressed in the design and construction of the object."

To put it in plain words, wind blows on an object. It exerts forces on the object. If that object is not designed to bear this force, or when the strength is lesser than the loads the object fails. From the picture it is evident that the bridge wasn't oscillating vertically but in a torsional motion. As the picture shows at the sides the bridge has a flat plate instead of trusses.

Least violent reaction to another Tacoma Narrows bridge reference



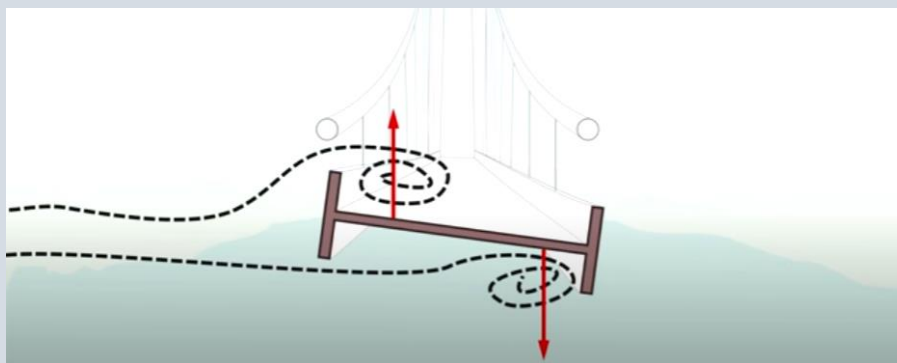
[A Civil engineer's basic reaction](#)



[Tacoma bridge rotating about its body axis](#)

Any amount of rotation along the axis created vortices, areas of low pressure in the regions away from the central axis so, as this distance increased the force required to produce the torque decreased that is because of the creation of low-pressure regions at not very helpful locations.

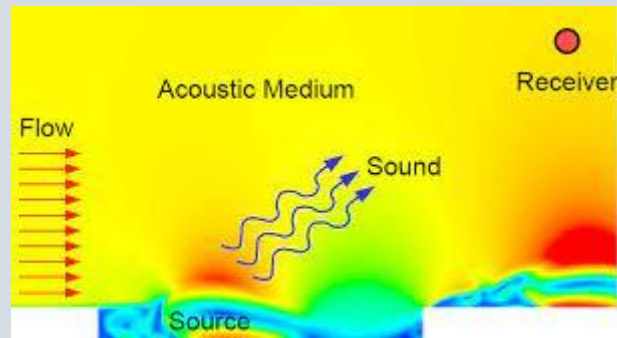
Every time the bridge came back to its original state. Its momentum provided an opportunity for it to rotate in the opposite direction, and thereby another two locations of low pressure were created.



[Low pressure regions](#)

This is called as the aeroelastic flutter.

How is this relevant to our case, well using sound waves there is a field called aero acoustics. It basically studies the flow field around an object and can calculate the aerodynamic forces. This can be done by using microphones or other acoustic sensors to measure the sound waves generated by the flow, and then analysing these signals to extract information about the flow field.

[Aeroacoustics](#)

One of the key advantages of aeroacoustics is that it is non-intrusive, meaning that it does not require physical contact with the structure being studied. This makes it a safe and convenient technique for studying aerodynamic forces on structures, particularly in cases where access to the structure is limited or dangerous.

So, if the Tacoma was studied using aeroacoustics the Tacoma wouldn't have failed. The flutter caused too much stress on the cable that it collapsed.

[Gadiana international bridge](#)

Look at how the substructure in this bridge is designed. It prevents the vortices from forming and thereby protects the structure from failing due to aeroelastic flutter.

PROGRAMMES ORGANIZED



Department of Mechanical Engineering along with the Department of Electronics and Communication Engineering organized a workshop on **“Design Thinking, Critical Thinking and Innovation Design”** on 01-03-2023. **Dr. M. A. Vinayagamoorthis**, Assistant Professor – II, was the resource person for the workshop. 72 Students participated in the workshop viz. Mechanical – 65, AIDS – 2, ECE – 3 Students, EEE & E&I – each department has one student. **Dr. S. Thirumuruveerakumar**, Associate Professor (Mechanical) and **Ms. Jasmine**, Assistant Professor (ECE) were coordinators for the workshop.





Department organised a guest lecture on **"Digital Manufacturing"** for the second year mechanical engineering students which was delivered by **Mr. S. B. Adithya**, CEO, M/s. USAM CAD Soft India Pvt. Ltd, Coimbatore on 30-03-2023. **Dr. C. Velmurugan**, HoD and **Mr. S. Sivakumar**, Assistant Professor – II coordinated the guest lecture.



RESOURCE PERSONS



Dr. M.A. Vinayagamoorthis, Assistant Professor – II was the resource person in a Workshop on **"Design Thinking, Critical thinking and Innovation Design"** organized by IIC, Kumaraguru College of Technology on 01-03-2023.

Dr. B. N. Sreeharan, Assistant Professor – II, was the resource person in a Seminar / Workshop titled **"Writing Technical Paper"** organized for the faculty members of **PKFokam Institute of Excellence, Cameroon**, on 17-03-2023 and on 20-03-2023.



PAPERS PRESENTED



Dr. M. Balaji, Associate Professor, presented his paper entitled "Exploring Contemporary Tools for Cycle Time Reduction in Manufacturing Setups" in the 1st International Conference on Advanced Materials, Manufacturing and Industrial Engineering (AMMIE 2023) organized by VIT, Chennai under the aegis of ASM International - India National Council and National Design and Research Forum during 23-03-2023 and 24-03-2023.

PAPERS PUBLISHED

Dr. S. Thirumurugaveerakumar, Associate Professor, published his paper "Optimization of Surface Roughness and Tool Wear during Machining of AMMC using Taguchi Technique" in the Chiang Mai J. Sci. 2022; 49(6): 1653-1662. He also published two more papers entitled "Design and Fabrication of Automated Glass Curtain Cleaning Machine" and "Ergonomic Design and Development of Stair Climbing Wheel Chair" in the International Journal of Engineering Research & Technology (IJERT), Vol. 12 Issue 02, February-2023.



MANUSCRIPTS REVIEWED



Dr. S. Balasubramanian, Associate Professor, reviewed a manuscript titled "Investigating the Relationship between Yarn Structure and Mechanical Properties in Ring and Rotor Spun Yarns" for the "Textile Research Journal", an International Journal.

Mr. B. Jeeva, Assistant Professor – II, reviewed a manuscript titled "Design and Optimization of Intelligent Algae Interception Equipment for Rivers based on Orthogonal Analysis and Finite Element Analysis for the International Journal of Engineering Research and Reports."



POST DOCTORATE COMPLETION



Dr. P. S. Samuel Ratna Kumar, Assistant Professor – I, completed 2 years of "PDRF" in University of Johannesburg on 28-02-2023 under Dr. P. M. Mashinini, Associate Professor, Department of Industrial and Mechanical Engineering, University of Johannesburg, South Africa.

INDUSTRY LINKAGES



initiated Industry internship on Product development at M/s. Spark Drives and Controls, Coimbatore was initiated on 24-03-2023 by **Dr. V. Muthukumaran**, Professor.

Dr. V. R. Muruganantham, Associate Professor arranged an industrial visit to M/s. Ammarun Foundries, Coimbatore on 21-03-2023 for African Delegates.



SEED MONEY



Dr. P. S. Samuel Ratna Kumar, Assistant Professor – I, has received a grant of Rs. 2 Lakhs under a KCT Institutional fund as seed money for research publications along with automobile engineering.

PATENT FILED

Dr. V. Muthukumaran, Professor, **Dr. K. M. Senthilkumar**, Associate Professor and **Dr. S. Balaji**, Assistant Professor – II filed a patent titled “Guidance robot” bearing application no. 382457-001 dated 25-03-2023.



PROGRAMMES ATTENDED



Dr. C. Velmurugan, Professor and HoD participated in a Training on “Leadership Skills for Teachers” from 29-03-2023 to 31-03-2023, organized by Maruthar Kesari Jain College for Women, Chennai.

Mr. S. Subbiah, Assistant Professor - I, participated in a Training on “NPD training at Capgemini” from 03-07-2023 to 15-03-2023, organized by Capgemini, Coimbatore.



Mr. B. Jeeva, Assistant Professor – II, participated in a Training on “Employment Seminar for Retired Veteran in association with Direct General of Resettlement - Indian Air force” on 21-03-2023, organized by DGR INDIAN AIR FORCE, Jalahalli Air station - Bangalore.

Dr. N. Sangeetha, Senior Associate Professor, participated in a Webinar on “Designing of Suspension System Using Lotus Shark, Solid Works and Ansys” on 21-03-2023 organized by ISIEINDIA, Noida



Dr. S. Balasubramanian, Associate Professor, participated in a Training on “Employment Seminar for Retired Veteran in association with Direct General of Resettlement - Indian Air force” on 21-03-2023 organized by DGR INDIAN AIR FORCE, Jalahalli Air station - Bangalore.



Mr. P. D. Devan, Assistant Professor - II, participated in a Training on “NPD training at Capgemini” from 03-07-2023 to 15-03-2023, organized by Capgemini, Coimbatore.

Dr. M. Thirumalaimuthukumar, Assistant Professor - III, participated in a Webinar on “Learn by Doing, Using Simulation Software- Ansys 2023 R1 Mechanical & CFD” on 24-03-2023 organized by ARK Infosolutions Pvt. Ltd., Chennai. He also participated in another Webinar on “Advanced Textiles for Surgical Implants” on 27-03-2023 organized by Department of Textile Technology, KCT & Institution of Engineers India, Coimbatore.



Dr. M. A. Vinayagamoorthis, Assistant Professor – II, participated in a Training on “NPD training at Capgemini” from 03-07-2023 to 15-03-2023, organized by Capgemini, Coimbatore.

NEW EQUIPMENT PURCHASE

For Heat and Mass Transfer Lab, a Variac/Dimmerstat Single Phase, 8 Point Temperature Indicator with 4 Meter Wire was purchased at a cost of Rs. 9699/-.

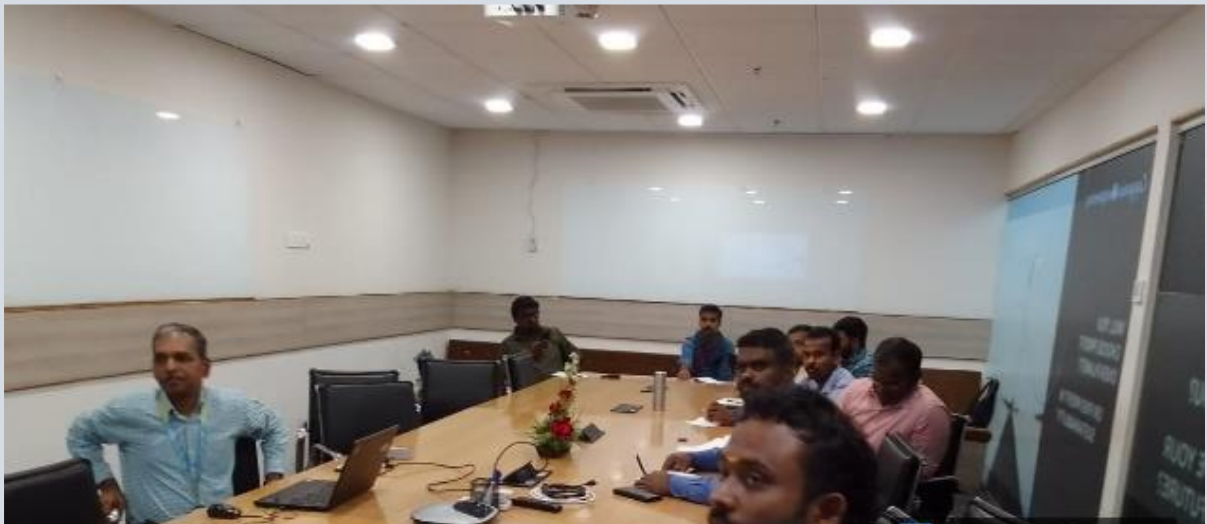
SNAP SHOTS



Dr. M. A. Vinayagamoorthis, Assistant Professor – II @ Design Thinking, Critical Thinking and Innovation Design Workshop



African Delegates visited **M/s. Ammarun Foundries, Coimbatore** along with **Faculty Members**



Faculty members at the Train the trainers Programme @ **M/s. Capgemini, Coimbatore**



Faculty members at the Train the trainers Programme @ **M/s. Capgemini, Coimbatore**



Our Students at MIT, Chennai for Nan-mudhalvan Final Round



Faculty members interacting with Ex-servicemen @ Employment Seminar for Retired Veteran in association with Direct General of Resettlement - Indian Air force" on 21-03-2023 organized by **DGR INDIAN AIR FORCE**, Jalahalli Air station - Bangalore.



Dr. C. Velmurugan, HoD/ME @ "Leadership Skills for Teachers"

KUMARAGURU – FOKAM INTRODUCTION TRAINING (K-FIT)

A Report



Dr. P. S. Samuel Ratna Kumar, Assistant Professor – I

PKFokam delegates visited KCT and they are engaged by Dr. Arun AP and Dr. Samuel Ratna Kumar P S till 5.45 pm in the evening. Also, visited the lab and research facilities of Mechanical department and other departments of KCT. They gave positive feedback about the visit and faculty engagement. Below are some images and descriptions about the engagement of PKFokam delegates from 15 March to 21 March 2023.

PKFokam delegates details:

1. KAMGA STEPHANE
2. KAMDEM NESTOR
3. NONO FONGANG DERICK ARMEL
4. TIMOH CHICK WILLIAM
5. KAMSU FOKOM NESTOR
6. NJIAKIM SIMO JORDAN JULES
7. KAMDEM TETO JOEL
8. NGASSI NDJEUMOU CORNEILLE ROGER

KCT Mechanical faculty:

- Dr. S. Bhaskar – ASP / Mech
- Dr. S. Thirumurugaveerakumar – ASP / Mech
- Dr. B. Senthil Kumar – ASP / Mech
- Dr. M. Thirumalaimuthukumaran – AP-III / Mech
- Dr. S. Ramanathan – AP-III / Mech
- Dr. V. Manivelmuralitharan – AP-III / Mech
- Dr. S. Balaji – AP-II / Mech
- Dr. S. Rajesh – AP-II / Mech
- Mr. S. Sivakumar – AP-II / Mech
- Dr. B. N. Sreeharan – AP-II / Mech
- Dr. T. Karuppusamy – AP-II / Mech

External expert:

- Dr. V. Prabhu Raja – Prof / Mech, PSG tech
- Dr. U. S. Raghupathy – Prof / EEE, KPRIT

Overall Faculty Co-ordinator:

Dr. A. P. Arun – Mech

Dr. Samuel Ratna Kumar P S– Mech



Dr. Samuel Ratna Kumar P S, Mechanical dept explained the conventional / unconventional machining processes and I.C. engine test rig.



Dr. Manivel Muralidharan V Mechanical dept explained the metallurgy experiments and its processes.



Mr. Pradeep P, Mechanical dept explained the different types of fluid lab experiments and its applications in detail.



Mr. Karthik, Mechanical dept explained the different types of flow and its measurements.



Dr. Senthil Kumar B, Mechanical dept explaining the 3 – axis CNC machine and its basic programming. Also, he has conducted a 2 day training program for the 2 PKFokam members.



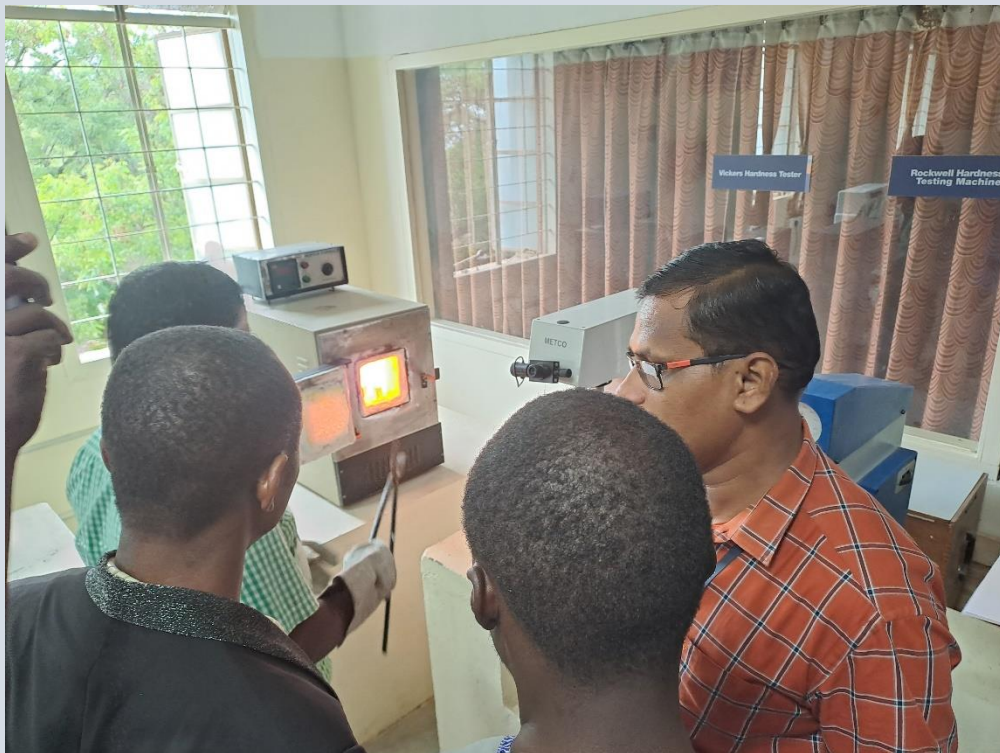
Dr Ramesh Kumar, Mr. Navaneeth and Dr. Arun KK, Mechanical dept explained about the different types of CAD software's used by the department for the students. Also, they gave a specific training for them in ANSYS.



Mr. Jeeva, Mechanical dept explained the different types of lab experiments carried out in the energy lab.



Mr. Manikandaprashath, Mechanical dept explained the basics of foundry in detailed and the types of sand, moulds, etc.



Dr. Manivel Muralidharan, Mechanical dept gave a hands on training on the types of heat treatment for the delegates.



Mechanical dept Professors and Associate Professors were interacted with the delegates to understand the process of the department in KCT.



PKFokam delegates also interacted with the Mechatronics dept regarding the automation and robotics.



The basics of NDT hands on training was conducted for the PKFokam delegates



Dr. Ragupathy, KPR delivered a guest training on OBE for PKFokam delegates.



Dr. Prabhu Raja, PSG delivered a guest training on how to write research proposals for PKFokam delegates.



Dr. S. Bhaskar, Associate Professor, Mechanical dept delivered a hands on training on assessment types for PKFokam delegates.



PKFokam delegates visited RE of KCT.



PKFokam delegates enjoyed riding a e-bike designed by RIG, KCT.



PKFokam delegates visited **FORGE** and understood about the process carried out in the incubation center.



Dr. B. N. Sreeharan, Assistant Professor – II of Mechanical Engineering Department delivered a guest training on how to write research paper for PKFokam delegates.

ACHIEVEMENTS

- **Mr. Imayan K T (20BME045) and Ms. Pavithra. R (18BME106)** presented the innovation titled "Tapioca Harvester" under the mentorship of **Mr Jeeva B** – AP-II/Mech at the Agri Hackathon 2022 organized by National Bank for Agriculture and rural development (NABARD) and Madurai Agribusiness Incubation forum (MABIF), Agri college, Madurai and Startup TN on March 6th, 2023.
- **Mr. Akash Velanganni D (20BME037), Mr. Gowtham R (20BME039), Mr. Guru G (20BME039), Mr.Siva K (19BME237) Mr. Thibakaran G (19BME119)** under the mentorship of **Mr. Jeeva B** – AP-II/Mech has been qualified to the finals of the TiE University Pitchfest 2023 organized by TIE University, Western California on March 29th, 2023 for the Innovation "Inline cleaning system of heat exchanger".
- **Mr. Akash Velanganni D (20BME037), Mr. Gowtham R (20BME039), Mr. Guru G (20BME039), Mr. Siva K (19BME237), Mr. Thibakaran G (19BME119)** under the mentorship of **Mr. Jeeva B** – AP-II/Mech submitted project proposal titled "Inline cleaning system of Heat exchanger" to IIT Roorkee under proposal to project scheme 2023-24 on March 31st 2023.
- **"Naan Muthalvan- Fusion 360 - Mega Challenge"** conducted by Centre of Excellence in Automotive Technology (CEAT) of Madras Institute of Technology in association with Tamil Nādu Skill Development Corporation (TNSDC), Anna University and Autodesk. **Mr Vaseekaran** and **Mr Lalit Kishore** participated in the contest under the guidance of **Dr. B. N. Sreeharan**.
- Student Membership registration with Coimbatore Productivity Council. 25 students UG-Mech, 5 Students – PG IE and 25 students – UG MCE, in total 55 students have made registered and the KCT Professional Society has sponsored the registration amount of Rs 37288.



Mechanical Engineering students participated in the Solar Electric Vehicle championship 2023, organized by Hindusthan Institution, Coimbatore.



Mr. Kamalesh Ganesan (21BME038) of second year Mechanical Engineering has participated in the webinar on Designing of Suspension System Using Lotus Shark Solid Works and Ansys conducted on 20th March, 2023 which was organized by ISIEINDIA.

Following students were participated in the Workshop titled “Design Thinking, Critical Thinking and Innovation Design 03-01-2023.

S. No.	Roll number	Name of the student
1	21BME022	GIRIDHAR P
2	21BME015	BARATH NITHISH K
3	21BME031	HARIHARAN K
4	21BME220	SANJEETH R V
5	21BME218	SANJAI B
6	21BME216	PALANI C
7	21BME068	SABARINATH G
8	21BME001	ABHINANDHAN S
9	21BME030	HARIPRASATH U
10	21BME023	GOKUL M
11	21BME205	ERIC ROSHAN T
12	21BME059	NIKESH RAM S R
13	21BME087	STEPHIN V V
14	21BME224	SRI GANESH SIVA SUBRAMANIAN S
15	21BME028	HARI HARA SUNDARAM V
16	21BME203	DINESH BABU P
17	21BME202	BHARATH S ILANGO VAN
18	21BME044	KIRUPHA SHANKAR P
19	21BME213	MAITHILAN M L
20	21BME036	KABILASH S
21	21BME098	VIJAY GANESH S
22	21BME064	RAGUL S
23	21BME014	ASWIN R
24	21BME049	MANOJ KUMAR M
25	21BME041	KAVIN KANNAN R
26	21BME100	VISHAAL J G
27	21BME037	KALKI RANESH S
28	21BME034	JAYASIVARAMAN R E

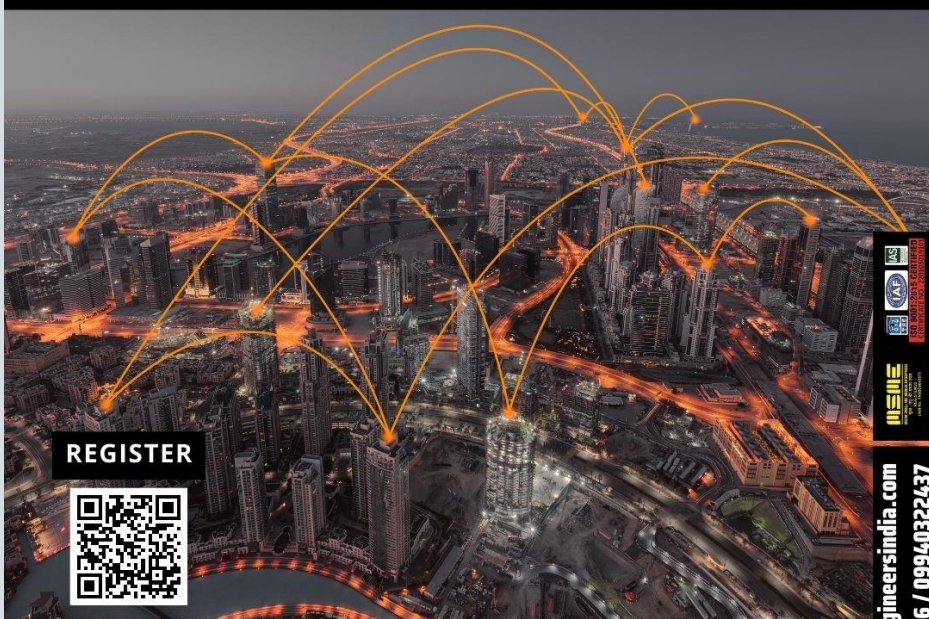
S. No.	Roll number	Name of the student
29	21BME073	SANTHANA KRISHNAN R S
30	21BME091	THINAGAR A M
31	21BME040	HARISRIYA S
32	20BME033	GOPINATHAN M
33	20BME087	PRAVEEN KUMAR R
34	20BME094	RITHU VARSHAN I M
35	20BME264	VIVEKANANDAN E S
36	20BME236	NITHIN RAAJ K
37	20BME227	LALITKISHORE N
38	20BME237	NITHISH M
39	20BME251	SRIDHARAN S
40	20BME226	KAIRUTHIVASAN M
41	20BME261	VIGNESH M
42	20BME100	SANJAI KUMAR A D
43	20BME047	JAISHANKAR S
44	20BME221	JOSHUA X
45	20BME202	ABIRAM P
46	20BME206	ARAVIND S
47	20BME079	NISANTH R
48	20BME121	VENKATESAN V
49	20BME060	KEERTHIVASAN S P
50	21BAD056	SHRINUKHI GANESH
51	21BAD016	DARSHAN D
52	21BEC213	SANJAY T S
53	22BEC179	SUYASH S A
54	22BEC181	TAMILARASAN S
55	22BEE137	RUBANRAJA B
56	22BEI016	DEEPIKA SURESH KUMAR

Web Development Workshop 2023, Top Engineers, Chennai, Tamil Nadu, 23rd April 2023.


OFFLINE HANDS ON

WEB DEVELOPMENT WORKSHOP

23.4.2023 - SUNDAY 9.30 AM - 4.30 PM



REGISTER



REGISTRATION FEES	GROUP DISCOUNT	VENUE
INR 999/- PER PERSON (INDIA) ((INCLUDING GST, NOTE PAD, PEN, CERTIFICATE, MORNING TEA AND LUNCH - ONLY VEG) \$100 USD (FOR OTHER COUNTRIES)	GROUP OF 5 & ABOVE WILL GET 5% DISCOUNT GROUP OF 10 & ABOVE WILL GET 10% DISCOUNT (STUDENTS WHO ATTEND ANY THREE TOP ENGINEERS WORKSHOP CAN ATTEND THE FOURTH WORKSHOP FREE OF COST)	IIT MADRAS RESEARCH PARK CHENNAI, TAMIL NADU - INDIA (IITH RESEARCH PARK IS ONLY A VENUE AND THE EVENT IS ORGANIZED BY TOPENGINEERS ONLY)

TOP ENGINEERS EVENTS LINK : <https://topengineersindia.com/events>


www.topengineersindia.com
09840728806 / 09940322437

Contact Details: 9840728806/09940322437, admin@topengineersindia.com, <https://www.topengineersindia.com>

Registration Fee:

INR 999/- per person (india) (including gst, note pad, pen, certificate, morning tea and lunch - only veg) \$100 usd (for other countries)

GROUP DISCOUNT OFFER: Group of 5 & above will get 5% Discount; Group of 10 & above will get 10% Discount.

HIGHLIGHTS:

Students who attend any three TOP ENGINEERS workshop can attend the fourth workshop free of cost. Certificates will be provided to Participants.

LIVE SURGERY OF IC ENGINES WORKSHOP, TOP ENGINEERS, CHENNAI, TAMIL NADU, 23rd APRIL 2023.



TOP ENGINEERS
UPGRADING ENGINEERING VERSION
(A MIT - ANNA UNIVERSITY ALUMNI START UP)
(INDIA'S LEADING EDUCATIONAL SERVICE PROVIDING FORM)
(STUDENTS TECHNICAL WORKSHOPS TRUST SINCE 2010)

IN ASSOCIATION WITH 2023



MECHANICA
IIT - MADRAS

OFFLINE HANDS ON

LIVE SURGERY OF
IC ENGINES WORKSHOP

23.4.2023 - SUNDAY 9.30 AM - 4.30 PM



REGISTER





*GET CERTIFIED BY TOP ENGINEERS IN ASSOCIATION WITH MECHANICA 2023, IIT - MADRAS

REGISTRATION FEES

INR 999/- PER PERSON (INDIA)
(INCLUDING GST, NOTE PAD, PEN, CERTIFICATE,
MORNING TEA AND LUNCH - ONLY VEG)
\$100 USD (FOR OTHER COUNTRIES)

GROUP DISCOUNT

GROUP OF 5 & ABOVE WILL GET 5% DISCOUNT
GROUP OF 10 & ABOVE WILL GET 10% DISCOUNT
(STUDENTS WHO ATTEND ANY THREE
TOP ENGINEERS WORKSHOP CAN ATTEND THE
FOURTH WORKSHOP FREE OF COST)

VENUE

IIT MADRAS RESEARCH PARK
CHENNAI, TAMIL NADU - INDIA
(IITM RESEARCH PARK IS ONLY A VENUE AND
THE EVENT IS ORGANIZED BY TOPENGINEERS ONLY)

www.topengineersindia.com
09840728806 / 09940322437

IC ENGINES DISMANTLING AND ASSEMBLING (15 - 20 PER TEAM).

Contact Details: 9840728806 / 09940322437, admin@topengineersindia.com,
<https://www.topengineersindia.com>

Registration Fees: INR 999/- per person (india) (including gst, note pad, pen, certificate, morning tea and lunch - only veg), \$100 usd (for other countries)

GROUP DISCOUNT OFFER: Group of 5 & above will get 5% Discount.
Group of 10 & above will get 10% Discount.

HIGHLIGHTS: Students who attend any three TOP ENGINEERS workshop can attend the fourth workshop free of cost. Certificate from top engineers in association with mechanica'23 IIT-Madras with iso certified number and hologram sticker will be provided by the end of the workshop which will add value during placements.



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. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
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.
- P04 :** Apply knowledge and competencies in manufacturing, analytics, supply chain, quality and engineering management.
- P05 :** Apply principles of industrial engineering to solve problems in industry.
- P06 :** An ability to work as part of interdisciplinary teams, communicate effectively, model and design engineering systems optimally.