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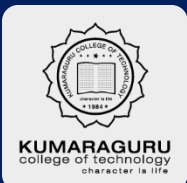
NOVEMBER 2024

Mechanical Engineering Department's Official Newsletter

Volume No. 08 Issue No. 03



Reach Us At...



Mechanical Engineering Association

Department of Mechanical Engineering

KUMARAGURU COLLEGE OF TECHNOLOGY



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From the Editors...

Dear Readers,

With great pleasure, we bring to you this issue of our departmental newsletter, celebrating the achievements and collective efforts of our vibrant academic community. This edition reflects the department's dedication to academic excellence, innovation, and active engagement within both the educational and professional spheres.

Our department is successfully organizing numerous programs that promote knowledge sharing and skill enhancement, alongside the valuable contributions of our faculty as resource persons at various renowned events. Their academic accomplishments are highlighted in this issue through impactful paper publications and contributions as manuscript reviewers, underscoring the expertise and commitment of our faculty members.

We are proud to announce the renewal of significant MoU and the granting of patents, marking milestones in our ongoing pursuit of research and development. Faculty participation in various conferences, workshops, and seminars showcases their commitment to professional growth and staying at the forefront of academic innovation.

Our students continue to shine, excelling in academic and extracurricular activities that highlight their dedication and talent. Many students have also secured valuable internships, gaining hands-on experience that prepares them for future careers. Through these activities, they demonstrate the enthusiasm and potential that make our department a place of pride.

In this issue, we also share snapshots capturing memorable moments from these events and initiatives, allowing readers a glimpse into the dynamic life within our department.

We would like to express my heartfelt gratitude to everyone who contributed to this newsletter. Your hard work and dedication have made this milestone possible, and we look forward to many more achievements to come.

Warm regards,

Editors....



Departmental Activities

PROGRAMMES ORGANIZED



A Guest lecture on “**Semiconductor Products and Standards**” and “**Medical Devices and Standards**” was organized on 08-10-2024. **Mr. K. Ramamoorthy**, Senior Mechanical Design Engineer and **Mr. T. Jothiprasad**, Senior Mechanical Design Engineer were the resource persons. **Dr. M. A. Vinayaga Moorthi**, Assistant Professor – III, coordinated the guest lecture.

FACULTY AS RESOURCE PERSON

Dr. N. Sangeetha, Senior Associate Professor, acted as Doctoral Committee Member for the Comprehensive Literature Survey and External Doctoral Committee Meeting held at Karunya Institute of Technology and Sciences, Karunya Nagar on 15-10-2024.



PAPER PUBLICATIONS



Dr. S. Thirumurugaveerakumar, Associate Professor, published his paper entitled “Implementation of lean techniques to reduce mudas in smart tone horn assembly” in the International Journal of Systematic Innovation, a scopus indexed journal.

Departmental Activities

Dr. S. Rajesh, Assistant Professor – III, **Dr. C. Velmurugan**, Professor and HoD, **Dr. V. Manivel Muralidaran**, Assistant Professor – III and **Mr. P. Pradeep**, Assistant Professor - II published their research work titled "Dry sliding wear performance of hybrid composites, comprising AlMg1SiCu alloy, titanium carbide, and molybdenum disulfide fabricated through stir casting process at different temperature condition" in the Springer Link, a Scopus indexed international journal.



MANUSCRIPTS REVIEWED



Dr. N. Sangeetha, Senior Associate Professor, reviewed a manuscript entitled "Comparison of vibration characteristics between coaxial contra rotational bidirectional woven stacked composite propellers" for the International Journal of Interactive Design and Manufacturing (IJIDeM), an SCI indexed journal.

MoU Renewal



MoU with **M/s. Ammarun Foundries**, Vilankurichi, Coimbatore- 641035 was renewed on 08-10-2024. **Dr. C. Velmurugan**, Professor and HoD, **Dr. V. R. Muruganatham**, Associate Professor, and **Mr. P. D. Devan**, Assistant Professor – II coordinated the renewal event.



PATENTS GRANTED

A patent titled "MULTI-POWERED GOLF CART" bearing No. 6398058 was granted to **Dr. V. R. Muruganatham**, Associate Professor, **Dr. M. Thirumalai Muthukumar**, Assistant Professor – III, **Mr. R. S. Mohankumar**, Assistant Professor – II, **Mr. S. Subbiah**, Assistant Professor – II, **Dr. S. Ramanathan**, Assistant Professor – III on 21-10-2024.



PROGRAMMES PARTICIPATED



Mr. R. S. Mohankumar, Assistant Professor - II, participated in a Training on Innovation Professionals [Level 1] from 21-10-2024 to 24-10-2024, organized by Forge.

Dr. V. Muthukumar, Professor, participated in an FDP on Advanced Materials and Emerging Technologies: From Electronics to Sustainable Energy Solutions from 23-09-2024 to 28-10-2024, organized by Koneru Lakshmaiah Education Foundation, Deemed to Be University, Bachupally Campus, Hyderabad, Telangana-500043



Dr. V. Manivel Muralidaran, Assistant Professor - III, participated in an FDP on Design, Technology and Innovation from 17-07-2024 to 14-09-2024, organized by NPTEL and completed the same as NPTEL course.

Dr. N. Sangeetha, Senior Associate Professor, participated in a Webinar on Multiphysics Solution for PCB Design –Electronic Reliability using Ansys Sherlock on 16-10-2024 organized by ARK Infosolution Pvt. Ltd.



Dr. M. Thirumalai Muthukumar, Assistant Professor - III, participated in a Webinar on Shorten your path to publication: Researcher insights from submission to rejection on 30-10-2024 organized by Elsevier Researcher Academy.

Departmental Activities



Dr. M. Balaji, Associate Professor, participated in an FDP on Design, Technology and Innovation from 17-07-2024 to 14-09-2024, organized by NPTEL and completed the same as NPTEL course.

Dr. K. K. Arun, Assistant Professor - III, completed an online course on "Sustainable Development - Ideas and Imaginaries" from 23-09-2024 to 17-10-2024, organized by Coursera.



Dr. B. N. Sreeharan, Assistant Professor - III, completed an online course "Statistics for Data Analysis" on 31-10-2024, organized by MAVEN ANALYTICS, LLC

STUDENT ACTIVITIES



Following students were part of the team which won the 2nd overall under EV category and 4th overall in IC category in the FKDC (Formula kart Design challenge) EVENT organised by FMAE (Fraternity of Mechanical and Automotive engineers) from 19-10-2024 to 24-10-2024. Th event was held at Kumaraguru college of technology and Kari motors Speedway racetrack, Chettipalayam, Coimbatore.

- ABDUL RAZAK J -23BME001
- ASHWINKUMAR S S -23BME010
- HARE KRISHNAN G R -23BME029

Departmental Activities

- HARISH KUMAR S-23BME034
- HARITH S-23BME036
- PRANESH S P-23BME070
- PRASANNA S M -23BME072
- RAGHAV A - 23BME076
- RITIK R G-23BME079
- SNEHAA SENNIAPPAN - 23BME087
- VARSHITH D - 23BME098

Mr. S. Smith, 22BME103 and **Mr. B. Vignesh**, 22BME121, **Mr. S. Kalanithi**, 22BME042, **Ms. S. Santhiya**, 22BME089, **Mr. J. Surya**, 22BME115 participated in a State Level Design Contest at AAKRUTI Global 2024 design Contest organized by Dassault Systems. **Dr. M. A. Vinayaga Moorthi**, Assistant Professor - III, **Dr. N. Sangeetha**, Senior Associate Professor and **Dr. B. N. Sreeharan**, Assistant Professor - III, mentored students to participated in a Design Contest on AAKRUTI Global 2024 design Contest, organized by Dassault Systems.

Mr. A. M. Sharan, 22BME097, participated in a paper presentation competition of National Level Technical Symposium, Spectra Genix'24 on 01-10-2024 organized by KGISL Institute of Technology under the guidance of **Dr. S. Thirumurugaveerakumar**, Associate Professor. He also participated in the Technical Quiz and "E-Sports".

Mr. R. J. Aldrin, 22BME007 participated in a Workshop on Additive Manufacturing Methods and its Applications on 04-10-2024 organized by Coimbatore Institute of Technology.

Mr. T. Suresh, 23PME01R, participated in a programme on "Progress in Mechanical Engineering" from 14-10-2024 to 19-10-2024 organized by SRM Institute of Science and Technology Ramapuram Campus, Chennai International. He also participated in another programme on Modern Trends in manufacturing Process from 05-08-2024 to 10-08-2024 organized by Easwari Engineering College, Chennai.

Mr. U. Suriya Prakash, 22BME114 was officially declared as Planetary Defender on NASA's Double Asteroid Redirection Test on September 13, 2024, by NASA through the competition (NASA'S Double Asteroid Redirection Test).

Our following students participated in IEEE YESIST12 2024 Grand Finale project presentation competition and presented their projects on the following titles held at Tunis Science City, Tunisia from 7th -8th September 2024. Students were mentored by **Dr. N. Sangeetha**, Senior Associate Professor and **Dr. B. N. Sreeharan**, Assistant Professor – III.

- Liquid Piston - Compressed Air Energy Storage - Shrikanth P - 22BME099, Mithun T N - 22BME059
- Vacuum Energy Storage System - Kalanithi S - 22BME042
- Wave Energy Extractor - Krisnan K - 21BME211

INTERNSHIPS

Following are the details of the internships done by our students under the supervision of **Dr. M. A. Vinayagamoorthi**, Assistant Professor – III, **Dr. Manivel Muralidaran**, Assistant Professor - III and **Dr. C. Velmurugan**, Professor and HoD. Review for them was conducted on 08-10-2024.

Roll No.	Student Name	Industry Name
21BME206	GOUTHAM M	Flowserve India Controls private Limited
21BME008	AKSHAY KANNA B	Anaamalais Toyato
21BME013	ASHWIN C	Climic Labs Private Limited
21BME015	BARATH NITHISH K	PRG RIGS India Private Limited
21BME017	DEEPAK R	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE
21BME018	DIVAKAR C S	Jk Fenner
21BME021	GIRIDHAR P	Sri Ranga Polymers
21BME022	GIRISH KUMAR E	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE
21BME036	KABILASH S	Hema Metal Works
21BME038	KAMALESH GANESAN	QROBOTIX
21BME056	NANDHAKISHORE T	Bull Machines Private Limited
21BME061	PEDDINENI ANIL KUMAR	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE
21BME068	SABARINATH G	Hema Metal Works
21BME074	SANTHOSH KANNAN G	Hema Metal Works
21BME075	SARVESH R	Toolcom
21BME077	SHANJAI E S	Hema Metal Works
21BME092	THOMENI CASTRO R	Hephzi Engineering Company
21BME094	VARUN A	Sail Refractory Company Limited
21BME094	VARUN A	Thriveini Car Company Pvt Ltd
21BME098	VIJAY GANESH S	Hema Metal Works
21BME099	VIJAYADITHYA K V	KCIRI
21BME205	ERIC ROSHAN T	KSB LIMITED
21BME206	GOUTHAM M	Karthick Industries
21BME209	KANISHK M	Cleantek
21BME213	ML MAITHILAN	DRDL
21BME217	SAIGUGAN C V	DRDL
21BME218	SANJAI B	Sri Ranga Polymers
21BME221	SATHISHKUMAR S	Bharat Heavy Electricals Limited
21BME223	SENTHUR A V	NSIC - Technical Service Centre
21BME226	SUJITH SIDHARTHAN S	Sri Ranga Polymers

SNAPSHOTS



Mr. K. Ramamoorthy, Senior Mechanical Design Engineer, Capgemini Engineering addressing

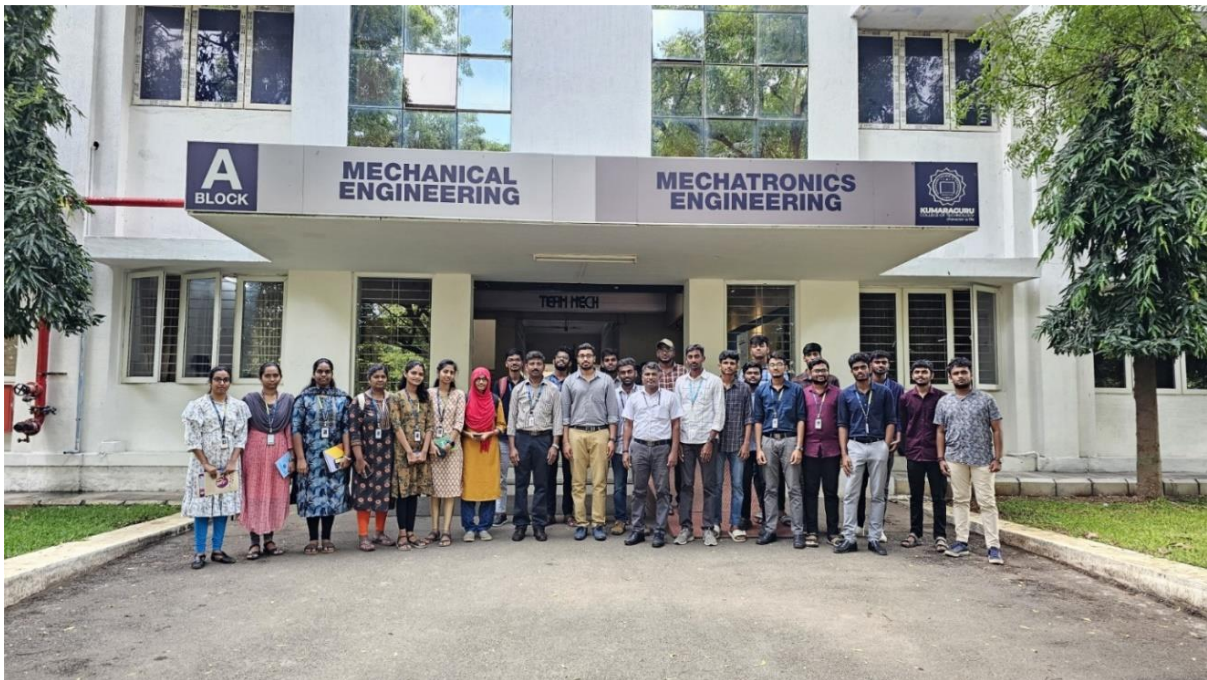


Faculty members during MoU Renewal with Ammarun Foundries

Departmental Activities



Mr. T Jothiprasad, Senior Mechanical Design Engineer, Capgemini Engineering, addressing



Participants from the guest lecture on "Semiconductor Products and Standards" and "Medical Devices and Standards"



பி.பூங்கொடி



ஜி.ராமகிருஷ்ணன்



சி.வேல்முருகன்



டி.தெய்வசிகாமணி



கைத்தறி நெசவாளர் களுக்கென பிரத்யேகமாக எடை குறைக்கப்பட்டு தயாரிக்கப்பட்ட LOW WEIGHT MODIFIED JACQUARD BOX ற்கான இரண்டாம் காப்புரிமையை இந்த ஆண்டு 13.5.2024 அன்று குமரகுரு தொழில்நுட்பக் கல்லூரி பெற்றுள்ளது என்கிற தகவலோடு இக்கட்டுரையைத் தொடர்கிறோம்! இத்தொழிலில் வடிவம் (Design) அமைக்கப் பயன்படும் உபகரணம்தான் ஜெக்கார்ட் பெட்டி

பிரெஞ்சு நாட்டைச் சேர்ந்த ஜோஸப் மேரி ஜெக்கார்ட் என்பவர் 1801-ல் இந்தப் பெட்டியைக் கண்டுபிடித்தார். இன்றளவும் அவருடைய பெயரிலேயே ஜெக்கார்ட் பெட்டி என்று வழக்கத்தில் கூறப்படுகிறது. நெசவாளர்கள் தங்களுடைய தறிகளில் பல்வேறு வடிவங்களை அவர்கள் நெசவு செய்யும் துணிகளில் இந்தப் பெட்டி மூலம் உருவாக்கி நெசவு செய்து சந்தை படுத்துகிறார்கள்! தினமும் குறைந்தபட்சம் 12 மணி நேரம் நெசவு செய்யும் நெசவாளர்கள், வடிவமைப்பதற்காக ஒரு நாளைக்கு 3,000 முதல் 3,500 முறை தங்கள் கால்களால் பெட்டியை இயக்குவதற்கு பெட்டியுடன் இணைக்கப்பட்ட மிதிபலகையை அழுத்தி மிதித்து வேலை செய்கிறார்கள், இதனால் அவர்களுக்கு முழங்கால்வலி, முதுகுவலி போன்ற தொடர்ச்சியான பிரச்சனைகள் இருந்து கொண்டே இருக்கின்றன. குமரகுரு தொழில்நுட்பக் கல்லூரி இந்த பிரச்சனையைத் தீர்ப்பதற்கான ஒரு ஆய்வை மேற்கொண்டு அதற்கென கல்லூரியின் ஆடை வடிவமைப்புத் தொழில்நுட்பத் துறையின் பேராசிரியர் முனைவர் டாக்டர் திரு. ஜி.ராமகிருஷ்ணன், இயந்திர பொறியியல் துறையின் துறைத்தலைவர் பேராசிரியர் முனைவர் திரு. சி.வேல்முருகன் மற்றும் வணிக மேலாண்மைப் பள்ளியின் பேராசிரியை முனைவர் திருமதி. பி. பூங்கொடி ஆகிய கல்லூரியில் மிகச் சிறந்த பேராசிரியர்கள் உள்ளிட்ட ஒரு குழுவை அமைத்து, பொள்ளாச்சி வட்டம் சமத்தூர் கிராமத்தில் சின்ன அரண்மனையில் நெசவாளர் மையம் ஒன்றை ஏற்படுத்தி செயல்படுத்தியது. அதன்படி 2018-ல் DST-SEED திட்டத்தின் கீழ் மத்திய அரசின் இரண்டாண்டு தொடர் திட்டத்தில் இக்குழு பல ஆராய்ச்சிகளைத் தொடர்ந்து மேற்கொண்டு ஜெக்கார்ட் பெட்டியின் எடையைக் குறைத்து நெசவாளர்கள் கால்களால் இலகுவாக சிரமமின்றி மிதித்து நெசவு செய்யும்படி உருவாக்கித்தந்தார்கள். இத்திட்டத்தில் சமத்தூர் நெசவாளர் டி. தெய்வசிகாமணியை திறன் சார் உதவியாளராக பணி அமர்த்தினர். எடை குறைக்கப்பட்ட ஜெக்கார்ட் பெட்டியில் சமத்தூர் நெசவாளர்கள் மற்றும் சுற்று வட்டார நெசவாளர்கள் 500 பேர் வரை நெசவு செய்து பார்த்து அதனுடைய இலகுவான நுட்பத்தை உறுதிப்படுத்தினர்! இப்பெட்டி நெசவாளர்களுக்கான ஒரு வரப்பிரசாதம் ஆகும். மேலும் மத்திய அரசு 'இது ஒரு சிறந்த படைப்பு' என்கிற விருதையும் 2019-ல் குமரகுரு கல்லூரிக்கு வழங்கி கௌரவித்தது என்பது குறிப்பிடத்தக்கது.

ஓசுத்தி

அக்டோபர் 2024

Om Shakthi Magazine published an article about Dr. C. Velmurugan and his patent.



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 achieve global recognition for the programs of the department by promoting innovation, sustainability, and leadership, contributing to the society.

DEPARTMENT MISSION:

1. To promote innovation in the Mechanical Engineering through curriculum, focusing on sustainability and ethical practices.
2. To create an active learning ecosystem for acquiring knowledge and skills in Mechanical Engineering.
3. To facilitate research in mechanical systems and sustainable technologies that have an impact on industry and society.

B. E. MECHANICAL ENGINEERING

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

- PEO 1 :** Graduates to pursue careers in Mechanical engineering and allied fields.
PEO 2 : Graduates to engage in the execution of multi-disciplinary engineering activities.
PEO 3 : Graduates to pursue professional development programs in Mechanical Engineering Science and Management.

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 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 contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
8. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
9. **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.
10. **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.
11. **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.