DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE

(Approved by AICTE and Affiliated to Anna University, Chennai, Chennai)

Accredited with 'A' Grade by NAAC

Perambalur – 621212. Tamilnadu

"MECH ARENA"

NEWSLETTER

DEC 2022 ISSUE

DEPARTMENT OF MECHANICAL ENGINEERING

Chairman's Message

The newsletter released today marks the commencement of an energetic endeavor designed to spotlight the academic successes of our esteemed institution on a competitive global platform. Dhanalakshmi Srinivasan Engineering College has experienced significant growth, surmounting obstacles along its journey. This achievement is attributed to the collaborative endeavors of the Management, Faculty, and Student body. I extend my heartfelt congratulations to all for their unwavering commitment and valuable contributions.

In this Issue,

Editorial Board

About The Department

- The Department of Mechanical Engineering was started in the year 2005. The Department offers Undergraduate Programme (B.E) in Mechanical Engineering and Postgraduate Programmes (M.E.) in CAD/CAM. The Department of Mechanical Engineering offers an excellent teaching-learning environment with modern state-of-the-art facilities and well-experienced faculty members The Department has an active students technical association It disseminates knowledge through various activities like special lectures/workshops/seminars/conference, competitions, technical quiz by eminent practitioners of the profession. Regular industrial visits/training/Internships to bridge the gap between theoretical and practical knowledge are arranged.
- The Department involves in value added courses and international certification programmes in association with leading training providers in the areas of drafting, modelling, simulation and analysis of engineering systems during semester holidays. The faculty members consistently interact with technical societies, to promote innovation and enrich the knowledge, skill and behaviour of students. The Department encompasses professional associations such as International Association of Engineers (IAEng), Institution of Engineers (IE), Institute of Research Engineers and Doctors (IRED) which provides students a platform to acquire various hard and soft skills.
- The department boasts of well-qualified and committed faculty ably supported by the technical supporting staff. The students have access to state of the art laboratories and workshops, which enable them to face the challenging needs of the industries and research institutions. The students are provided enough opportunities to specialize in the areas of CAD, CAM, ROBOTICS, MECHATRONICS etc. With expertise over a wide range of domain specialization. The Department aims to attain excellence in academic teaching and learning, research and extension activities. The areas of research focus include design, manufacturing, materials and thermal engineering.

VISION

- To develop highly skilled Mechanical Engineers dedicated to serving society.

MISSION

- To develop competency in emerging technologies through knowledge and skill based education
- To provide conducive environment for research and innovation to cater the societal needs
- To inculcate moral and ethical values to become socially responsible engineers

PROGRAM EDUCATIONAL OBJECTIVES

This Course is conducted to achieve the following Programme Educational Objectives (PEOs):

- Academic Excellence Excel as successful engineers or entrepreneurs.
- Leadership Quality Become effective leaders, demonstrating professionalism and a commitment to lifelong learning.

PROGRAM SPECIFIC OUTCOMES

PSO1: Apply fundamental and advanced concepts in mechanical engineering across multiple domains, such as materials, design, manufacturing, and thermal engineering, to effectively design, develop, and implement complex products and systems.

PSO2: Identify, select, and effectively utilize ICT tools commonly employed Mechanical Engineering such as Computer-Aided Design (CAD) software, simulation software, and data analysis tools to create and apply innovative solutions for the betterment of society.

EVENTS ORGANIZED

➢ Guest lecture on Recent Trends in Computational Fluid Dynamics dated 15-7-2022

The Department of Mechanical Engineering organized a guest lecture on "Recent Trends in Computational Fluid Dynamics" on 15-7-2022. The lecture was conducted by Dr.K.Srithar, an esteemed expert in the field, who shared valuable insights into the latest advancements and applications of CFD in engineering and research.

During the session, Dr.K.Srithar discussed the significance of CFD in optimizing designs, improving performance, and reducing costs across various industries, including automotive, aerospace, and renewable energy. The lecture also highlighted key methodologies, software tools, and case studies showcasing the practical implementation of CFD techniques.

Students and faculty members actively participated in the interactive session, engaging in discussions about emerging challenges and future prospects in CFD research and development. The guest lecture provided a comprehensive overview of cutting-edge approaches in fluid dynamics simulation and computational modeling.

The event concluded with a vote of thanks to Dr.K.Srithar for sharing valuable knowledge and inspiring the audience with new perspectives on Computational Fluid Dynamics. This insightful session has enriched our understanding of fluid flow phenomena and its applications in addressing complex engineering problems.

We extend our gratitude to Dr.K.Srithar and all participants for making this guest lecture a resounding success, contributing significantly to our academic and professional growth in the field of Mechanical Engineering.

A webinar focused on How to Create a Better Tomorrow was held on 1st August 2020, inspiring participants with strategies and insights for personal and collective improvement.

Key highlights of the webinar included:

1. Visionary Thinking: Participants were encouraged to adopt a visionary mindset, envisioning a better future for themselves and society. The webinar emphasized the power of positive thinking and proactive planning in shaping a brighter tomorrow.
2. Goal Setting and Action Plans: The session delved into the importance of setting achievable goals and creating action plans to turn dreams into reality. Attendees learned practical strategies for goal setting, prioritization, time management, and overcoming obstacles.

3. Social and Environmental Responsibility: The webinar highlighted the role of individuals and communities in promoting social justice, sustainability, and environmental conservation. It encouraged participants to contribute positively to their communities and the planet.
4. Innovative Solutions: The webinar showcased innovative solutions and initiatives that contribute to a better tomorrow, such as technology-driven advancements, social entrepreneurship, community development projects, and sustainable practices.

The webinar fostered discussions on personal growth, societal progress, and collective responsibility in building a brighter and more inclusive future for generations to come.

➢ Seminar on Status, challenges and features of Additive Manufacturing dated 17-8-2022

The Department of Mechanical Engineering conducted a seminar on "Status, Challenges, and Features of Additive Manufacturing" on 17-8-2022. The seminar aimed to explore the current landscape of additive manufacturing technologies, along with the associated challenges and innovative features shaping the industry.

Experts in additive manufacturing, including industry professionals and academic researchers, were invited to share their insights during the seminar. Topics discussed included the evolution of additive manufacturing processes, advancements in materials used, and the impact of additive manufacturing on product design and production efficiency.

Attendees gained valuable knowledge about the state-of-the-art techniques in 3D printing, rapid prototyping, and the integration of additive manufacturing in various sectors such as aerospace, healthcare, and automotive. The seminar also delved into the challenges faced, such as material limitations, quality control, and scalability, providing a holistic view of the field's opportunities and barriers.

Engaging discussions and interactive sessions allowed participants to exchange ideas, explore collaborative opportunities, and deepen their understanding of additive manufacturing's potential in driving innovation and sustainability.

The seminar concluded with a vote of thanks to the speakers and participants for their valuable contributions, emphasizing the importance of continued exploration and research in additive manufacturing to address industry challenges and unlock new possibilities in manufacturing technology.

We extend our appreciation to all attendees for making this seminar a success and look forward to further exploration and advancements in additive manufacturing within our academic and industrial community.

A webinar focusing on Future Opportunities in Germany for Indian Engineers was conducted on 18th July 2020, providing valuable insights into career prospects and pathways for engineering professionals in Germany.

Key highlights of the webinar included:

1. Introduction to German Engineering Sector: Participants gained an overview of the thriving engineering sector in Germany, known for its innovation, advanced technology, and high-quality engineering education and research.
2. Job Market Trends: The webinar discussed current job market trends in Germany for Indian engineers, including demand for specialized skills in fields such as automotive engineering, mechanical engineering, electrical engineering, software development, and renewable energy.
3. Work Culture and Visa Requirements: Attendees learned about the work culture in German companies, visa requirements for working in Germany, language proficiency expectations, and cultural adaptation tips for successful integration into the German workforce.
4. Education and Skill Development: The session highlighted opportunities for further education, skill development programs, and research collaborations in Germany, encouraging participants to explore avenues for advancing their careers in the country.

The webinar stimulated discussions on international career opportunities, cross-cultural experiences, and the benefits of pursuing professional growth in a global engineering hub like Germany.

➢ Symposium - UNIQUE 2K22 dated 30/09/2022

The Mechanical Engineering Department hosted a dynamic symposium titled "UNIQUE 2K22" on 30-09-2022, bringing together students, faculty, and industry experts for a day of insightful discussions and knowledge exchange.

The symposium featured a diverse range of technical sessions, workshops, and keynote speeches focusing on the latest trends and innovations in mechanical engineering. Topics included emerging technologies in renewable energy, sustainable manufacturing practices, and advancements in robotics and automation.

Students had the opportunity to showcase their research projects and innovative ideas through poster presentations and technical exhibitions. Industry professionals shared valuable experiences and insights during panel discussions, highlighting the real-world applications of engineering concepts and solutions.

The event fostered networking opportunities and collaboration among participants from academia and industry, encouraging interdisciplinary dialogue and collaboration. Students gained practical knowledge, industry insights, and inspiration for their future careers in mechanical engineering.

We express our gratitude to all speakers, participants, and sponsors for their contributions in making UNIQUE 2K22 a successful and enriching symposium. The event's success reflects our commitment to fostering innovation, creativity, and excellence in the field of mechanical engineering.

➢ Workshop on Product Design Engineer using Autodesk Fusion

On 10.10.2022, the Mechanical Engineering Department organized a highly interactive workshop centered around "Product Design Engineer using Autodesk Fusion." This session aimed to equip participants with practical skills in leveraging Autodesk Fusion software for effective product design and engineering. Led by experienced instructors, the workshop delved into key functionalities of Fusion, such as 3D modeling, simulation, and collaboration tools, empowering attendees to create cutting-edge designs and prototypes.

The workshop fostered a dynamic learning environment where participants actively engaged in hands-on exercises and project-based learning. Through guided tutorials and real-world case studies, attendees gained a deeper understanding of Fusion's capabilities in streamlining the product development lifecycle and optimizing design iterations. The session also facilitated networking opportunities, allowing participants to exchange ideas and best practices in product design engineering using Fusion.

Overall, the workshop was a resounding success, providing valuable insights and practical knowledge to aspiring product design engineers. The event underscored our commitment to promoting technological proficiency and innovation in mechanical engineering education, paving the way for future advancements in product design and development.

➢ PROJECT EXPO CUM CONTEST IGNITRA – 2k22

The highly anticipated "PROJECT EXPO CUM CONTEST IGNITRA – 2k22" took place on 28-10-2022, showcasing an array of innovative projects and fostering a spirit of competition and collaboration among participants. Students presented their cutting-edge projects spanning various disciplines, from mechanical engineering to renewable energy and beyond, highlighting their creativity and technical prowess.

The event provided a platform for students to exhibit their research, prototypes, and solutions to real-world challenges, garnering attention from industry experts, faculty, and peers. Participants demonstrated their problem-solving skills, ingenuity, and passion for engineering, contributing to a vibrant atmosphere of learning and discovery.

Overall, the PROJECT EXPO CUM CONTEST IGNITRA – 2k22 was a testament to the talent and dedication of our students, reflecting our commitment to nurturing innovation and excellence in engineering education.

FACULTY PUBLICATIONS

Sl. no.	Authors Name	Title	Name of the Journal	Volume /Issue/ pp	Year
1	R Sujitha, N Sunmathi, RK Manikandan, J Arunprasad, S Rajkumar, Shubham Sharma, Kamal Sharma, Changhe Li, Elsayed Mohamed Tag Eldin .J.Arunprasad	Analytical and experimental study on cold-formed steel built-up sections for bending.	Materials (MDPI) **(SCIE)**	15(20): 7140	Oct-2022
2	Kulanthaivel Velmurugan, Jayaraman Arunprasad, Sener. ArifSenol, Rajamanickam Thirugnanasambantham	Analysis of emissions trapped on energy balance variables for spark-ignition engine modifying a commercial diesel engine	Indian journal of chemical technology **(Scopus)**	572 – 577	2022

PATENT DETAILS

Sl. No.	Inventor Name	Year of Filing	Title	Reference Number	IP Status	Applied For
1	Dr. K. Velmurugan	3/11/2022	CAD/CAE tools in engineering education: a modern approach to industrial design	202221002690A	Published	INDIAN PATENT

STUDENT'S PARTICIPATION

S.No	Name	Event Name	Event Type	Name of the Institution
1	SANJAI R	AVS	WORKSHOP	AVS COLLEGE OF TECHNOLOGY
2	SANJAY P	IFERP	WEBINAR	IFERP
3	SANJAI R	IFERP	WEBINAR	IFERP
4	THAMIZHANBAN M	IFERP	WEBINAR	IFERP
5	SANJAY P	IFERP	WEBINAR	IFERP
6	THAMIZHANBAN M	IFERP	WEBINAR	IFERP
7	SANJAI R	MESMER 2K22	SYMPOSIUM (CAD)	K.RAMAKRISHNANCOLLEGE OF TECHNOLOGY
			SYMPOSIUM (PPT)	
			SYMPOSIUM (LATHE)	
8	SANJAI R	FAME-22	SYMPOSIUM (PPT)	MAHA BARATHI ENGINEERING COLLEGE
9	RANJITH M	SYMEC2K22	SYMPOSIUM (PPT)	MUTHAYAMMAL ENGINEERING COLLEGE
10	SANJAI R	SYMEC2K22	SHORTFILM	
11	RANJITH M	SYMEC2K22	SHORTFILM	
12	RANJITH M	SYMTRON'22'	SYMPOSIUM (PPT)	
13	SANJAI R	SYMTRON'22'	SYMPOSIUM (PPT)	
14	SANJAI R	SYMEC2K22	SYMPOSIUM (PPT)	
15	RANJITH M	IITM RESEARCH PARK	WEB DESIGNING	NGCS
16	THAMIZHANBAN M	TOP ENGINEERS	WORKSHOP	TOP INTERNATIONAL EDUCATION TRUST
17	SANJAY P	WORLD BIO-FUEL DAY	SKILL DEVELOPMENT	YAVARUM KELIR
18	SANJAI R			