



NEWSLETTER

MExpress



Department of Mechanical Engineering, KUMARAGURU COLLEGE OF TECHNOLOGY

Vision: To facilitate mechanical engineering education, research and services that contributes to the advancement of scientific knowledge leading to social development.

Mission: The Department is committed to provide quality education and training with emphasis on engineering fundamentals and applications to the students to be competent professionals with ethics. The department executes research and provides engineering services for sustainable development of society.

Vol. 01 No. 01

For internal circulation only

01.08.2017 – 31.08.2017

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Associate Editors: Mr. B. N. Sreeharan, Mr. J. K. Mukilan, Mr. Vishal, Mr. K. Arun

Programmes Organized

- A Short term course on Plastics Materials and Casting Process was organized by the department during 17.08.2017 and 18.08.2017. Mr. Sankar Das and Mr. Kulandaivel. P from Valeo India Private Limited, Chennai - 600 119, organized the same.
- The department also coordinated an International Conference on Science, Technology and Engineering Promotion during 18.08.2017 and 19.08.2017. Prof. Jiri Militky, CSc., Professor, Technical University of Liberec, Czech Republic and Prof. Alok Barua, Professor, Electrical Engineering, IIT Kharagpur and Prof. Dror Avisar, Director, Water Research Centre, Israel were the chief guests and they delivered the key note addresses and chaired the sessions.
- Department organized a one day Workshop on Freshers with SAP in MNC on 23.08.2017. Mr. U. Prabu, Project Manager, Mr. K. Jaya Kumar, and Mr. N. Jagadeesh, Functional Consultants from S2SInfotech, Coimbatore conducted the workshop.

Conference / Workshop attended

- Dr. N. Sangeetha, Senior Associate Professor attended an Industrial Training on Diesel Engine Management System conducted by Infineon Technology, Bangalore at Bosch Centre for Automotive Electronics, KCT on 11.08.2017.

During 17.08.2017 to 19.08.2017 she also attended an Proficiency Improvement Programme (certificate Course) on Futuristic Automotive Technologies jointly organized by the Automotive Research Association of India (ARAI) & KCT,

- Dr. K. M. Senthilkumar, Associate Professor, participated in the International Conference on "Sustainable Energy Management for mitigation and adaptation on Climate Change", organised by Faculty of Environmental Management, Prince of Songkla University, Thailand during 17.08.2017 and 18.08.2017.

Paper Publications

- Dr. K. M. Senthilkumar, Associate Professor, presented papers in the International conference on "Sustainable Energy Management for mitigation and adaptation on Climate Change", organised by Faculty of Environmental Management, Prince of Songkla University, Thailand during 17.08.2017 and 18.08.2017. Paper I titled "Improving the energy efficiency in the manufacturing industries by implementing sustainable energy management techniques" Paper II titled "An Automatic Prevention for Human Health According to Environmental Change using Pattern Recognition".
- In the International Conference on Science, Technology and Engineering Promotion

coordinated by the department during 18.08.2017 and 19.08.2017 following faculty members presented their papers. The details are as follows

Author	Title
Dr. C. Velmurugan	EXPERIMENTAL STUDY ON THE WEAR BEHAVIOUR OF HEAT TREATED ALUMINIUM HYBRID METAL MATRIX COMPOSITES
Dr. M. Balaji	AN APPLICATION OF INTERPRETIVE STRUCTURAL MODELLING TO ASSESS AGILITY INDEX
Dr. R Manivel	INVESTIGATION OF ENERGY STORAGE DEVICE USING PHASE CHANGE MATERIAL (PCM)
Dr. P. K. Giridharan	PREDICTING THE TENSILE STRENGTH OF FRICTION STIR WELDED DISSIMILAR ALUMINIUM ALLOY USING ANN
Mr. Siddhan Siva Kumar	CFD ASSISTED DESIGN AND ANALYSIS OF 10 KWE DOUBLE THROAT TWO STAGE AIR SUPPLY APPROACH DOWNDRAFT GASIFIER
Mr. P. S. Samuel Ratna Kumar	MODAL ANALYSIS OF MWCNT REINFORCED AA5083 COMPOSITE MATERIAL
Dr. V .Muthukumaran	INVESTIGATION OF ANTIMICROBIAL ACTIVITY OF MEDICAL GRADE HEPA FILTER WITH COPPER DEPOSITION
Mr. Manikanda Prasath K.	A GREEN SUPPLY CHAIN AGILITY INDEX FOR E- COMMERCE BUSINESS: AN INDIAN PERSPECTIVE USING INTERPRETIVE STRUCTURAL MODELLING
Dr. Balasubramanian S	A STUDY ON THE EFFECT OF PROCESS PARAMETERS OF LASER HARDENING IN CARBON STEELS

Author	Title
Mr. Sivakumar. S	EXPERIMENTAL INVESTIGATION OF AN INDIRECT TYPE NANO COATED FLAT PLATE SOLAR COLLECTOR FOR DRYING PURPOSE
Mr. R. S. Mohan Kumar	DEVELOPMENT OF AN INTELLIGENT SYSTEM FOR OPTIMIZATION OF BLANKING DIE DESIGN PARAMETERS SELECTION
Mr. Manivelmuralidaran. V	EFFECT OF PREHEATING TEMPERATURES ON IMPACT PROPERTIES OF CHROMOLY ALLOY STEEL 4130 WELD USING GAS METAL ARC WELDING
Dr. V. R. Muruganantham ,	DESIGN AND OPTIMIZATION IN PRODUCTION OF AIR RECEIVERS
Mr. Prashanth. P	DEVELOPMENT OF ALUMINIUM MATRIX NANO COMPOSITE THROUGH POLYMERIC METHOD
Mr. Sreeharan B N	PROCESS OPTIMIZATION OF GMAW OVER AA6351 ALUMINIUM ALLOY USING ANN
Mr. P. R. Ayyappan	EFFECT OF INLET VALVE MODIFICATION ON SWIRL RATIO IN A COMPRESSION IGNITION ENGINE
Dr. Sathyabalan P	PREDICTION OF TENSILE STRENGTH AND ELONGATION IN HYBRID ALUMINIUM COMPOSITE USING ANN
Mr. T. Karuppusamy	INVESTIGATION ON THE MICROSTRUCTURE AND WEAR CHARACTERISTICS OF HEAT TREATED HYBRID ALUMINIUM COMPOSITES
Mr. Seranthian Ramanathan	FLUID FLOW AND HEAT TRANSFER ANALYSIS IN A MICRO-CHANNEL WITH A BAFFLE
Mr. P. Pradeep	CHARACTERIZATION OF PARTICULATE-REINFORCED ALUMINIUM 7075 / TIB2 COMPOSITES

Author	Title
Mr. S. B. Nithyananth	HYBRID SOLAR DESALINATION AND WATER HEATING SYSTEM: A REVIEW
Mr. Manikanda Prasath K	A REVIEW OF ADVANCED CASTING TECHNIQUES
Mr. P. S. Samuel Ratna Kumar	HYBRID METHOD TO GENERATE ELECTRICITY FROM ROAD SPEED BREAKER
Mr. S. Rajesh	EFFECT OF PREHEATING TEMPERATURES ON IMPACT PROPERTIES OF CHROMOLY ALLOY STEEL 4130 WELD USING GAS METAL ARC WELDING
Mr. Siddhan Siva Kumar	A REVIEW OF COFIRING TECHNOLOGIES TO REDUCE GREENHOUSE GAS EMISSIONS FROM COAL FIRED POWER PLANTS
Mr. S. Suresh	DYNAMIC DESIGN ANALYSIS METHOD (DDAM) OF LANDING GRID SHIP ASSEMBLY FOR 6.5 TONNES USING FINITE ELEMENT METHOD

- Mr. Manikanda Prasath. K. Presented his paper titled "Optimisation of EN31 Steel using TAGUCHI and RSM" in the International Conference, IconAMMA 2017, Amrita University, Bangalore during 17.08.2017 and 19.08.2017.

Workshop attended - Students

- Three students from Mech C attended a workshop on "Advancement in Non-destructive Testing and Welding" conducted by Coimbatore Institute of Technology on 19.08.2017.
- About sixteen students attended a Workshop on "Performance tuning, hybrid concepts and safety aspects" conducted by Coimbatore Institute of Technology on 23.08.2017.
- III Year Mech 'C' students attended a Workshop "RPM 2K17" conducted by SNS College of Technology.

- Six students from II year attended a Workshop on "3D Printing" conducted by Coimbatore Institute of Technology during 28.07.2017
- Mr. Guru S from II Mech. 'A' attended a Workshop on "IC-Engines, Autonomous and Hybrid Cars" on 01.09.2017 conducted by Coimbatore Institute of Technology.
- Mr. Akilan S of II Mech. 'B' participated one day workshop on "Don't waste your waste" on 23.08.2017 conducted by SNS College of Technology.
- Mr. Janarthanan V and Mr. Logesh Krishna K of II Mech. 'B' went for an industrial visit at M/s. Grundfos, Chennai on 24.08.2017.

Students Achievements

- QBDC is a National Level event conducted by FMAE (FRATERNITY OF MECHANICAL AND AUTOMOBILE ENGINEERS). Legion team of our KCT secured the 1st place in the "KILL THE HILL" followed by Acceleration and Traction test and 2nd prize in Suspension test and also awarded for Best Aesthetics.

Extracurricular activities

- Mr. M. B. Deepak Anandh (14BME222) has won 1st place in Badminton conducted by KICS.
- Mr. P. Nagappan (14BME089) has won 1st place in Anna University zonal level basket ball match.
- Mr. M. DevaSri (16BME163) & Mr. A. Haroon (16BME139) got 1st place in volley ball match conducted by Anna University zonal level and also runner up in KICS.
- Mr. Shankar Subramanian (14BME137) runner up in foot ball match conducted by KICS.
- Two of our Students Mr. Mytheeshwaran (14BME088) & Mr. Ananda Raj (14BME007) secured 3rd place in chess conducted by KICS.
- Mr. Nivash Kumar from pre-final year and Mr. Ajith from final won a 1st place in Group dance in Aura conducted by PIMS.
- Mr. Nivash Kumar from 3rd year secured 3rd place in Adaptune in Aura conducted by PIMS.

8. In Aura, Mr. Santhosh Kumar P (14BME124) won a first place in Drama & Shipwerk and second place in Movie dubbing and ADZAP conducted by PIMS.
9. Mr. Vasanth Kumar P (14BME161) won a first place in Drama and second place in Movie dubbing and ADZAP conducted by PIMS.

Orientation for 1st years

Mechanical Engineering Association (MEA) had organized an orientation program on 11th August, 2017 for the first year Mechanical Engineering Students. In this programme, association detailed about the department and introduced the faculty members and the MEA team, the various clubs and forums and also they demonstrated the RC car.

Placements

- Editors join hands with the students and the faculty of the department to congratulate the following students for getting the placements in M/s. Robert Bosch, Coimbatore and in M/s. Placement Season

Mr. K. Ponraj (14BME096) and Mr. M. Monish (14BME084) – Robert Bosch

Mr. R. Illango (14BME061) – Placement Season.

History of Automotive Safety Glass

The basic functions of auto glass are apparent; structure, protection and design. There's much more to it, however. Auto glass comes in different types. It also has quite a complex construction. The construction of the glass functions in such a way that it protects occupants from the inside out.

Types of Automotive Glass

All auto glass is made of safety glass. Safety glass is constructed to shatter in the event of incident in order to protect the occupants in the vehicle and protect the integrity of the vehicle's structure. There are two primary types of safety glass found on an automobile. The windshield of the vehicle is made with laminated glass. Laminated glass has multiple layers. A layer of vinyl laminate is sealed between two layers of composite glass.

The seal created between these layers makes a bond so strong that the windshield can withstand the 2,000 pound force of an airbag; it can deflect 95 percent of the sun's ultraviolet rays and absorb the secondary force suffered in an automobile accident.

Laminated glass contributes vastly to the integrity and structure of a vehicle. The glass, together with other safety features and intentional crush zones has rendered vehicles much safer than they were decades ago. The remaining windows of the vehicle are made of tempered glass. Tempered glass is glass created by the fluctuation of temperature. First the glass is heated then rapidly cooled. This process not only makes the glass 5 to 10 times stronger than its original state. It also causes the glass to shatter in small, crumbled pieces. These crumbled pieces are dull and much safer than the large shards of glass that come from broken mirrors or other standard glass.

How it evolved

The French chemist Edouard Benedictus discovered the shatter-resistance of glass coated with film when he mistakenly dropped one of his glass flasks. An assistant of Benedictus had failed to properly clean the flask after it had been used to hold a cellulose nitrate solution. The solution dried leaving a thin layer of plastic inside the flask. When Benedictus dropped it, he noticed the broken glass stayed adhered to the coating, maintaining its original structure. From this discovery, Benedictus went on to invent safety glass and bullet proof glass. By the 1920's, laminated glass was implemented into vehicles. It was a clumsy start with weak versions of what is used today. Tempered glass was then introduced in the late 1930's. It took several decades to perfect what automakers really wanted to do; protect passengers, make more reliable vehicles and increase vehicle sales.

Smart glass has the ability to tint itself, which is much like the transition lenses that have been used for many years in optical lenses. It can even heat itself, reduce glare and repair itself. Smart Glass is expected to be the optimized future of auto glass with a \$3.5 billion dollar affect on the industry.

- Compiled by **Mr. J. K. Mukilan**, Final Mech.

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