



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. 11

For internal circulation only

01.06.2018 – 30.06.2018

Editors: Dr. C. Velmurugan, Mr. B. N. Sreeharan

Associate Editors: Mr. K. Arun, Mr. Rallish Mr. Praveen

Placement Training

Department of Mechanical Engineering conducted Summer Placement Training programs for final year mechanical students from 20.06.2018 to 01.07.2018. & sessions handled by the following faculty members of Mechanical Engineering.

- Dr. A. P. Arun, AP (II)/ME
- Mr. R. S. Mohan Kumar, AP/ME
- Mr. M. Thirumalaimuthukumaran, AP (II)/ME
- Dr. S. Balasubramanian, ASP/ME
- Mr. M. A. Vinayagamoorthi, AP (II)/ME
- Mr. B. N. Sreeharan, AP (II)/ME
- Dr. S. Sivakumar, AP (III)/ME
- Mr. S. Ramanathan, AP (II)/ME
- Mr. V. Manivel Muralidharan, AP (II)/ME
- Mr. B. Jeeva, AP/ME
- Dr. K. K. Arun, AP (III)/ME
- Mr. K. Krishnamoorthi, AP (II)/ME



This program focused on CFD, ANSYS, CATIA, SOLIDWORKS & CNC. Dr. K. K. Arun, AP (III)/ME coordinated the training program.

Courses / Seminars Participated

- Dr. K. M. Senthil Kumar, ASP/ME, participated in "Industrial Relation, Make in India and Skill India" from May 27 – 31, 2018 conducted by IIT, Kharagpur.
- Following faculty members participated in a Short-term Course on "INTRODUCTION TO NUMERICAL HEAT TRANSFER, FLUID FLOW AND ITS APPLICATIONS" organized by the Department of Mechanical Engineering, Coimbatore Institute of Technology, Coimbatore from 28.05.2018 to 03.06.2018.
 - Dr. S. Sangeetha, Sr. ASP/ME
 - Mr. S. Sivakumar, AP (II)/ME
 - Mr. B. Jeeva, AP/ME
- Dr. S. Balasubramanian, ASP/ME and Mr. M. A. Vinayagamoorthi, AP (II)/ME attended a seminar on "HEXAGON STATIONARY CMM TECHNOLOGY" on 15.06.2018.

Research and development

Dr. Arvind Singh visited Ultrashort Pulse High Intensity Laser Laboratory (UPHILL) at the Tata Institute of Fundamental Research (TIFR), Mumbai from 19th to 23rd June 2018.

During his visit, he conducted experiments on light alloys and composites using 100 Terawatt femtosecond Ti:Sa laser.

Paper Publications

- Details of paper presented in the First International Conference on “Science, Technology, Engineering and Management (I-STEM 2018)” during 11.06.2018 and 12.06.2018 by the faculty members of the department are given below.

Authors	TITLE
S. Jayalakshmi, R. Arvind Singh, T. S. Srivatsan, M. Gupta	MICROSTRUCTURE EVOLUTION & MECHANICAL PROPERTIES OF PURE MAGNESIUM WITH INCREASING TIN ADDITION
P. S. Samuel Ratna Kumar, S. John Alexis, M. Gautham Siddharth	IMPROVED MECHANICAL PROPERTY OF MONTMORILLONITE K10 REINFORCED AA5083 METAL MATRIX COMPOSITE
C. Velmurugan	TRIBOLOGICAL STUDIES ON THE HEAT-TREATED HYBRID ALUMINUM METAL MATRIX COMPOSITES
M. Balaji, V. Manivel Muralidharan, N. Victor Prathaban, D. Vinoth	PRODUCTIVITY ENHANCEMENT USING LEAN TOOLS IN LOW VOLUME PRODUCTION
R. Sedhu, Siddarth, V. Manivel Muralidaran, V. Arun, A. P. Arun, K. Krishnamoorthi, M. Balaji	DMAIC APPROACH IN CRUSHER PLATE MANUFACTURING IN FOUNDRY TO IMPROVE PRODUCTIVITY
M. Balaji, V. Veeraparthiban, P. Chandru, MP. Santharam Sivachandran Ramachandra	RFID ENABLED SUPPLY CHAINS FOR COMPETITIVE BUSINESS PERFORMANCE
V. Arun, V. Manivel Muralidaran, R. Sedhu Siddarth	DESIGN OF WORKPLACE IN ASSEMBLY UNIT USING ERGONOMIC PRINCIPLES
M. Balaji, A. P. Arun, Lavanya Rajaram, D. Rajanayagam	INFORMATION TECHNOLOGY IN SUPPLY CHAIN AGILITY THROUGH DIGITAL PRODUCT CATALOGUES
K. Manikanda Prasath, P. Nithyanandam, Ramya Devi	PREDICTION OF SURFACE ROUGHNESS FOR END MILLING PROCESS USING RESPONSE SURFACE METHODOLOGY
T. Karuppusamy, C. Velmurugan, K. Sukanthan babu, S. Saran	EXPERIMENTAL STUDY ON THE WEAR PROPERTIES OF HEAT TREATED ALUMINIUM COMPOSITES

Authors	TITLE
S. Prabhu, K. Manikanda Prasath, Dr. P. Karthikeya, Dr. S. Babu	PERFORMANCE EVALUATION OF 70CM2 PEMFC STACK WITH COMMON RAIL USING CFD
R. Arvind Singh, S. Jayalakshmi, and E. S. Yoon	FABRICATION OF MICRO/NANO-POLYMERIC STRUCTURES BY LITHOGRAPHY TECHNIQUES FOR MEMS TRIBOLOGY
N. Sangeetha, M. Vasanthakumar, T. Karthikeyan	STUDY OF ENGINE MOUNTS AND VIBRATION OF THREE WHEELED VEHICLES
R. V. Hariharan, M. Brathikan, N. Sangeetha	INVESTIGATION OF NATURAL FREQUENCY FOR A STRUCTURAL PLATE USING EXPERIMENTAL MODAL ANALYSIS AND COMPUTATIONAL FEA
R. Manivel, T. Babin, John Handel Kennedy	STUDIES ON EFFECT OF TURBULENCE AND VORTICES ON THE EFFICIENCY OF CENTRIFUGAL FAN THROUGH CFD, SIMULATION
M. Gnanasekar, Siddhan Sivakumar	INDIGENOUS DEVELOPMENT OF DOWNDRAFT GASIFIER FOR COOKING APPLICATIONS
S. B. Nithyananth, K. Manikandaprasath, S. Rajesh, S. Suresh, S. Gopalakrishnan	AN EXPERIMENTAL ANALYSIS OF HYBRID - PYRAMID TYPE SOLAR DESALINATION WITH CONCENTRIC PARABOLIC COLLECTOR (CPC)
S. Suresh, K. Manikanda Prasath, S. Sivakumar, S. Rajesh, S. Sivakumar	AN EXPERIMENTAL INVESTIGATION ON PERFORMANCE CHARACTERISTICS IN SINGLE CYLINDER DIESEL ENGINE USING CARDANOL OIL IN DIFFERENT BLENDING RATIOS
P. S. Samuel Ratna Kumar, K. Vikram, P. Vijaya Rajan	OPERATION ENHANCEMENT FOR BRAKE DRUM PROCESS USING VALUE STREAM MAPPING
S. Bhaskar	A PERCEPTIONAL STUDY ON GROOMING “WORK ENHANCEMENT SKILLS” OF UNDERGRADUATE ENGINEERING STUDENTS

Authors	TITLE
R. Prakash, A P. Arun, K. Krishnamoorthi, M. Balaji, V. Manivelmuralidharan	APPLICATION OF TOTAL PRODUCTIVE MAINTENANCE TO ENHANCE OVERALL EQUIPMENT EFFECTIVENESS IN YARN MANUFACTURING
A Hari Prashath, V Hemanth Sundar, N Vignesh, M. A. Vinayagamoorthi	AUTOMATIC SPEED CONTROL DESIGN FOR AUTOMOBILES BASED ON GPS USING EMBEDDED SYSTEM
S. Arjun Krishna, A P. Arun, K. Krishnamoorthi, V. Manivelmuralidharan, S. Ramanathan	DESIGN AND IMPLEMENTATION OF LEAN MANUFACTURING SYSTEM IN DIFFUSER HOUSING
S. Bhaskar	A STUDY ON ACADEMIC ISSUES IN THE PERCEPTION OF E&T STUDENTS AND THEIR RANKING USING TQM TOOL- PRIORITIZATION MATRIX
B. Senthilkumar, K. Vasantharaj	INVESTIGATION OF EFFECT OF WELDING TORCH OSCILLATION ON BEAD GEOMETRY
M. Karthik Kumaran, K. J. Kishor, B. Senthilkumar, E. Shobhana	DESIGN AND DEVELOPMENT OF LOW COST AUTOMATION FOR PNEUMATIC BLANKING AND PIERCING APPLICATIONS
R. Vetrivel, C. Navinselvakumar, P. S. Samuel Ratna Kumar	CARBON NANOTUBES AND ITS APPLICATIONS – A REVIEW
Siddhan Sivakumar	TRANSIENT ANALYSIS OF MULTISTAGE PUMP USING FINITE ELEMENT METHODS
M. RameshKumar, K. K. Arun, VR. Navaneeth	STUDY OF STATIC AND FATIGUE ANALYSIS OF FLAX/EPOXY- LEAF SPRING
V R Muruganatham, M Thirumalaimuthukumaran, R Francis	ANALYSIS AND REDESIGN OF AIR RECEIVERS USING TRIZ AND DFM PRINCIPLES FOR ENHANCING THE PRODUCTIVITY
Siddhan Sivakumar, Radhakrishnan Suresh M. Gnanasekar	DESIGN AND INFLUENCE STUDY OF LIFT TO DRAG RATIO (L/D) ON OPTIMAL AERODYNAMIC PERFORMANCE STUDY OF VERTICAL AXIS WIND TURBINES (VAWT)
M.	STRUCTURAL

Authors	TITLE
Thirumalaimuthukumaran, T. Karthikeyan.	OPTIMIZATION OF SUSPENSION UPPER CONTROL ARM OF A PASSENGER CAR
D. Kavin Nivaaas, P. A. Rangunandan, A. Vikram Krushna, R. S. Mohan Kumar	DESIGN AND ANALYSIS OF HONEYCOMB REINFORCED EPOXY GLASS FIBRE BUMPER
K K Arun, S. Sam Vimal Kumar R. Ajay	EVALUATION OF PRESSURE DROP IN A CYCLONE SEPARATOR BY USING CFD ANALYSIS
N. Sangeetha, G. Surya Raj	REVIEW ON DIFFUSER BASED VERTICAL AXIS WIND TURBINE
P. D. Devan	DETERMINATION OF NATURAL FREQUENCIES OF SPUR GEAR IN PORTAL AXLE GEARBOX
R. Manivel, T. Babin, G. Sriram	SIMULATION AND PERFORMANCE COMPARISON OF PNEUMAFIL CASING BLOWER
P. K. Giridharan, V. Jawahar krishnan	FACILITY LAYOUT DESIGN USING SLP FOR HYDRAULIC PRESS MANUFACTURING
Siddhan Sivakumar, P. Sathyabalan, Radhakrishnan Suresh	NUMERICAL STUDY OF WALL FUNCTION AND NEAR WALL APPROACH TREATMENTS ON AIR FOIL BLADE (NACA0012)
B. Jeeva, C. R. Rajashekar	EXPERIMENTAL INVESTIGATION ON ACCELERATED BIODIESEL OXIDATION FOR KARANJA OIL METHYL ESTER
S. Sivakumar, C. S. Adhithyan, T. Vidyasagar, M. MeenachiSundaram,	HEAT TRANSFER ANALYSIS OF FORCED CONVECTION COOLING SYSTEM FOR AIR COOLED ENGINE
Siddhan Sivakumar, K. Mohan Kumar, M. Gnanasekar	MATHEMATICAL MODELING OF EVACUATED TUBE SOLAR COLLECTOR (ETSC) WITH HEAT PIPE
S. Sivakumar C. Velmurugan	ENHANCING THE HEAT TRANSFER RATE BY COATING OF NANO PARTICLES ON A SOLAR COLLECTOR FOR DRYING APPLICATIONS
S. B. Nithyananth	AN EXPERIMENTAL PERFORMANCE INVESTIGATION OF HYBRID SOLAR

Authors	TITLE
	DESALINATION AND SOLAR WATER HEATING SYSTEM
P. R. Ayyappan, Ramasankaran	AN EXPERIMENTAL INVESTIGATION ON WATER COOLED COMPRESSION IGNITION ENGINE BY VARYING FUEL INJECTION PRESSURE
S. Balaji, S. B. Nithiyand	HIGH TEMPERATURE AIR GASIFICATION IN UPDRAFT BIOMASS GASIFIER
P. R. Ayyappan, Ramasankaran	EFFECT OF INJECTION TIMING ON A COMPRESSION IGNITION ENGINE- AN EXPERIMENTAL STUDY
S. Thirumurugaveerakumar	REDUCTION OF TEMPERATURE RISE IN BUS BAR USING FORCED CONVECTION METHOD IN HIGH LOAD APPLICATION
Dr. S. Thirumurugaveerakumar, S. Sam Vimal Kumar, R. Ajay, P. T. Naveen	TEMPERATURE VARIATION STUDY ON INDUSTRIAL BUS DUCT SYSTEM BY MATLAB AND FEA
M. Aswin Krishna, P. D. Devan	DESIGN AND ANALYSIS OF HEAT RECOVERY SHIELD AT HOT ROLLING MILL IN STEEL INDUSTRY
Karthi Poyyamozhi	EXPERIMENTAL INVESTIGATION ON EFFECT OF LPG ADDITION ON OPERATING CHARACTERISTICS OF BIO DIESEL FUELLED ENGINE
M. Monish, S. Ramnath, S. V. ManojKumar, B. Jeeva	SOLAR TUNNEL AIR DRYER: A COMPUTATIONAL FLUID DYNAMICS INVESTIGATION FOR FLOW PATH DESIGN WITH TEMPERATURE DISTRIBUTION
V. R. Muruganantham, P. Muraleedharan, S. Krishnamoorth	INTRODUCTION OF DMAIC METHODOLOGY WITH TRIZ TO IMPROVE THE OUTPUT IN YARN MANUFACTURING PLANT
L. DhiviyaLakshmi, V. Muthukumaran, J. Abinaya, K. Kalaiyarasi, B. Suganeswari	FABRICATION OF AIR FILTERS FROM NONWOVEN FABRICS
G. Selvaraj, V. Muthukumaran, A. G.	MULTI RESPONSE PROCESS PARAMETERS

Authors	TITLE
Karthikeyan	OPTIMIZATION OF CNC-WIRE-CUT EDM ON INCONEL625 USING TAGUCHI METHOD
R. S. Mohan Kumar, C. Velmurugan	DEVELOPMENT OF MATHEMATICAL MODELING AND ITS EXPLORATION BASED ON GENETIC ALGORITHM FOR BLANKING DIE DESIGN PARAMETERS OPTIMIZATION OF AISI 304 SHEET MATERIAL
K. Krishnamoorthi, B. Suraj, M. Sharan Prakash, K. Sundharesan, K. Vidhyadharan, K. S. Shri Charan	LINEAR GASKET CUTTING MACHINE
K. M. Senthilkumar, K. K. Arun, K. Ulaganathan, V. R. Navaneeth	TO ENHANCE THE PERFORMANCE OF MILLING UNDER SUSTAINABLE MANUFACTURING
K. K Arun, R. Ajay, S. Sam Vimal Kumar	STUDY ON REDUCTION OF ENVIRONMENTAL IMPACTS IN PRODUCTION OF DRIVE SHAFT
K. Krishnamoorthi, B. Suraj, M. Sharan Prakash, K. S. Shri Charan	UNMANNED GROUND VEHICLE FOR MATERIAL HANDLING
D. Ponnuswamy, K. K Arun, S. Sam Vimal Kumar, R. Ajay	OPTIMIZATION OF MACHINING PARAMETERS OF AL-6063 ALLOY BY USING A GREY-FUZZY APPROACH
K. Krishnamoorthi, A. P. Arun, K. Gokul, V. Veeraparthiban	SETUP TIME REDUCTION IN MOULD BASE PRODUCTION USING SINGLE MINUTE EXCHANGE OF DIES (SMED) FOR PRODUCTIVITY
K. Manikanda Prasath, S. Prabhu, M. Narendra Kumaran	OPTIMIZATION OF GREEN SAND CASTING PROCESS PARAMETER USING RESPONSE SURFACE METHODOLOGY
A. S. Pradeep, M. Abishek, R. D. Rishi Kumar, P. Prashanth	EXPERIMENTAL ANALYSIS OF STIR CAST ALUMINIUM HYBRID COMPOSITES AND METAL MATRIX COMPOSITES
S. Balasubramanian, R. Kumaravelani	STUDY TO PREDICT THE PROCESS FOR PRODUCING CAM IN PLASMA CUTTING AND LASER BEAM CUTTING

Authors	TITLE
N. Srimath, P. Sathyabalan	A REVIEW ON OPTIMIZATION OF WELD BEAD GEOMETRY FOR INDUSTRIAL AUTOMATION
S. Rajesh. C. Velmurugan	WEAR BEHAVIOUR OF AL6061 HYBRID METAL MATRIX COMPOSITE IN BRAKING APPLICATIONS
V. Muthukumar, C. Velmurugan, Z. Vasif Ahamed, S. K. Rudresh, R. LokeshSekar	CHARACTERIZATION OF Ti6AL4V ALLOY UNDER LIQUID AND GAS NITRIDING
R. Rajmurugan, V. Muthukumar	EFFECT OF POST OXIDIZING OF SALT BATH NITROCARBURIZED GRADE 5 Ti-6AL-4V AND AISI 316L SS ON SURFACE HARDNESS
V. Muthukumar, R. Manivel, S. Gowtham, R. Sanjai S. Kandharooban	A REVIEW ON PHASE CHANGE MATERIALS (PCM) FOR FOOD PRODUCTS PRESERVATION
V. Manivel muralidaran, K. Senthilkumar K. Karun	A REVIEW OF COLD CRACK SUSCEPTIBILITY STUDIES ON HIGH STRENGTH LOW ALLOY STEELS
N. Sangeetha, G. Aravinth	PROCESSING AND CHARACTERIZATION OF COIR AND SISAL FIBRE BASED HYBRID PMC
P. Sathyabalan, Siddhan Sivakumar	PREDICTION OF WEAR IN A HYBRID ALUMINIUM ALLOY COMPOSITE – POLYNOMIAL REGRESSION MODELLING THE EFFECT OF REINFORCEMENTS
G. Swaminathan, S. Sanjay, P. Pradeep, S. Rajesh	EXPERIMENTAL INVESTIGATION ON ACTIVE HEALTH MONITORING SYSTEM FOR TWO-WHEELER
S. Esakkiyappan, M. Mohamed Fazil, P. Pradeep,	GEOMETRICAL OPTIMIZATION OF BUMPER BEAM PROFILE MADE OF ADVANCED HIGH STRENGTH STEEL
B N. Sreeharan, T. Kannan	EXPERIMENTAL ANALYSIS FOR POROSITY DEFECT IN AA6351 USING GMAW PROCESS AND DEVELOPMENT OF ANN TO PREDICT DEFECT AREA

Authors	TITLE
S. Sivakumar, C. Velmurugan, A. V. Karthikeyan, P. Prakash	DESIGN OF INTERCHANGABLE UPRIGHT FOR AN ALL-TERRAIN VEHICLE
P. Sathyabalan, M. D. Puhazhendhi, K. R. Aranganayagam, R. Kannan	ELECTRODEPOSITION OF TRANSITION METAL COMPOSITES ON MILD STEEL: STRUCTURAL AND WEAR BEHAVIOUR
C. Velmurugan, B. Poongodi, S. Sivakumar, S. Thirugnanam	EXPERIMENTAL STUDIES ON THE MECHANICAL PROPERTIES OF ALUMINIUM HYBRID COMPOSITES
R. Arvind Singh, S. Jayalakshmi, E. S. Yoon	FABRICATION OF MICRO/NANO-POLYMERIC STRUCTURES BY LITHOGRAPHY TECHNIQUES FOR MEMS TRIBOLOGY

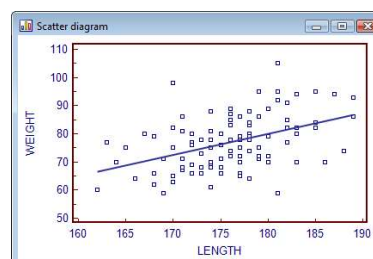
Industrial Training

- As a part of Industry Institution Interaction, following faculty members from the department got trained in M/s. Ammarun Foundries, Coimbatore during 03.05.2018 – 05.05.2018 and 10.05.2018 and 12.05.2018

Mr. V. R. Navaneeth, AP/ME
Mr. S. Prabhu (Jr), AP/ME
Mr. S. Subbiah, AP/ME

SCATTER DIAGRAM

Also called as scatter plot, X-Y graph, scatter diagram graphs pairs of numerical data, with one variable on each axis, to look for a relationship between them. If the variables are correlated, the points will fall along a line or curve. The better the correlation, the tighter the points will hug the lines.



- Courtesy: B. N. Sreeharan, AP – II/ME

Reach us at:
da.mec@kct.ac.in