



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

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काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६०१५, तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

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DEPARTMENT OF MECHANICAL ENGINEERING

Research Papers Linked to SDGs

Academic Year: CAY (2024-25), CAYm1 (2023-24), CAYm2 (2022-23)

CAY 2024-25:

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
1.	Dr. K. Raja Narender Reddy	Effect of coir fiber loading on the mechanical, thermal, and physical properties of natural composites in applications of packaging	SDG9 SDG12	SCIE
2.	Sri Ch. Karunakar	Study of moisture absorption, mechanical properties and morphology of jute/sisal hybrid cellulose composites	SDG9 SDG12	SCIE
3.	Sri K. Kishor Kumar	CO2 storage behavior of rice husk biochar-bitumen mixture at different pressures and temperatures: a detailed experimental investigation	SDG9 SDG12 SDG13	SCIE
4.	Sri K. Kishor Kumar	Design and analysis of an AB5 - metal hydride-based canister for hydrogen compressor application	SDG9 SDG13	SCIE
5.	Dr. MD. Sameer	Evaluation of mechanical and wear properties of A713-Al2O3-CaCO3 hybrid composite materials fabricated by stir casting	SDG9 SDG12	SCIE
6.	Sri V. Pradeep	Investigation on mechanical properties and wear behavior of basalt fiber and SiO2 nanofillers reinforced composites	SDG9 SDG12	ESCI
7.	Dr. A. Devaraju	Analysis of Bio-degradable Scaffolds for Bone Tissue Growth using 3D Printing	SDG9 SDG12	SCOPUS
8.	Dr. A. Devaraju	Design and Fabrication of Filament Extruder Machine	SDG9 SDG12	SCOPUS
9.	Dr. A. Hari Kumar	An Exploration of the Influence of MHD, Porosity, and Wall Transpiration on Jeffrey, Fluid Flow	SDG9 SDG12	SCOPUS

CAY m1 2023-24:

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
1.	Dr. K. Raja Narender Reddy	Exploring the potential of Tamarindus indica stem short macro fibers reinforced guar gum resin green composites	SDG8 SDG9 SDG12	SCIE
2.	Dr. K. Raja Narender Reddy	"A study on the mechanical and erosion wear of functionally-layered polymer composites and hybrid functionally-layered polymer composites"	SDG8 SDG9 SDG12	SCIE
3.	Dr. G. Ganesh Kumar	Numerical studies on conjugate convection from discretely heated electronic board	SDG9	SCIE

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
4.	Dr. A. Devaraju	"Investigation of mechanical properties in friction stir processing parameters of Cu-TiB2 composite using Taguchi approach",	SDG9 SDG12	ESCI
5.	Dr. B. Srinivas Reddy	Experimental investigation of a natural circulation fuel delivery system on the performance of an air breathing direct methanol fuel cell with liquid electrolyte layer	SDG8	SCIE
6.	Dr. K. Sridhar	"A review on thermal performance Enhancement Technique of Solar air heater	SDG9	SCOPUS
7.	Dr. U. Srinivasa Balraj	Multi-objective optimization of machining parameters for EDM of magnesium alloy- ze41 using MARCOS algorithm and different weighing methods: SD, CRITIC and MEREC",	SDG9 SDG12	SCOPUS
8.	Dr. A. Devaraju	Effect of Tic & Tungsten Nano particles on Microstructure and Tensile Properties of 6061T6 Alloy Surface Nano Composite Via Friction Stir Processing	SDG8 SDG9	SCOPUS
9.	Dr. MD. Sameer	Comparative Analysis of RSM, ANN and ANFIS Techniques in Optimization of Process Parameters in Laser Assisted Turning of NITINOL Shape Memory Alloy	SDG9	SCOPUS

CAY m2 2022-23:

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
1.	Dr. K. Sridhar	Effect of interdigitated leaf channel design bipolar plate on the performance of proton exchange membrane fuel cell	SDG9	SCIE
2.	Dr. K. Raja Narendra Reddy	Investigation of thermo-mechanical properties of Cochlospermum Gossypium composite materials with inserted OPM fibre.	SDG9 SDG12	SCIE
3.	Dr. G. Ganesh Kumar	INDUS: Economical Maglev Centrifugal Blood Pump for Developing Countries- Preliminary In-Vitro Hemolysis Testing",	SDG9	SCIE
4.	Dr. A. Devaraju	Influence of volumetric percentage of high entropy alloys on mechanical behavior of 6061 T6 Al alloy surface composite processed by friction stir processing	SDG9	ESCI
5.	Dr. A. Devaraju	Finite element modeling aspects in the fracture assessment of a low-pressure steam turbine blade	SDG9	ESCI
6.	Dr. A. Devaraju	Influence of Rotary Assisted Electrical Discharge Machining of 17-4PH Stainless Steel Using Taguchi Technique	SDG9	SCIE
7.	Dr. K. Raja Narendra Reddy	Review on composite classification, manufacturing, and applications	SDG8 SDG9	SCOPUS
8.	Dr. P. Srikanth	Characterization of process parameters in micro EDM on stainless steel, 2023	SDG9	SCOPUS
9.	Dr. P. Srikanth	A Micro-EDM based experimental study of surface texture on stainless steel 316 micro-machined holes	SDG9	SCOPUS
10.	Dr. U. Srinivasa Balraj	Production and testing of Al- ferroniobium composites	SDG9	SCOPUS
11.	Dr. A. Devaraju	Green synthesis and characterizations of TiO2 nano particles with its applications	SDG9	SCOPUS

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
12.	Dr. A. Harikumar	Characterization and Fabrication of Aluminum Foam using Powder Metallurgy Method	SDG9	SCOPUS
13.	Dr. P.S.S. Murthy	Preparation and characterizations of glass and carbon fiber reinforced polymer composite materials	SDG9	SCOPUS
14.	Sri V. Prasanna	Development and solving of optimization model for WEDM of AISI D3 using TLBO algorithm	SDG9	SCOPUS

CAY m3 2021-22:

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
1.	Dr. A. Devaraju	Study on machinability of Ti6Al4V with coated inserts - cutting force, surface finish and material rate prediction using ANN	SDG9	ESCI
2.	Dr. A. Devaraju	Investigation on material removal rate and taper angle in abrasive aqua jet machining of Al 7075/SiC/Gr composites using RSM approach	SDG9	ESCI
3.	Dr. A. Devaraju	RSM-TOPSIS multi optimization of EDM factors for rotary stir casting hybrid (Al7075/B4C/Gr) composites,"	SDG9 SDG12	ESCI
4.	Dr. Md. Sameer	Effect of process parameters during electric discharge machining of maraging steel and optimization using Taguchi-DEAR method	SDG9	ESCI
5.	Smt. P. Anitha	Influence of titanium diboride and graphite on microstructure characteristics and mechanical behaviors of aluminum hybrid nanocomposites	SDG9 SDG12	SCIE
6.	Dr. S. Ojha	Enhanced mechanical properties of glass fibre epoxy composites by 2D exfoliated graphene oxide filler	SDG9 SDG12	SCIE
7.	Dr. S. Ojha	Sustainable Thermochemical Extraction of Amorphous Silica from Biowaste	SDG9 SDG12	SCIE
8.	Dr. S. Ojha	A review on mechanical and In-vitro studies of polymer reinforced bioactive glass-scaffolds and their fabrication techniques	SDG9 SDG12	SCIE
9.	Dr. S. Ojha	Experimental evaluation and comparison of silica/biocarbon particulate-epoxy composites for high-strength applications	SDG9 SDG12	SCIE
10.	Dr. M. Om Prakash	Effect of biomass-biochar content on the erosion wear performance of biochar epoxy composites	SDG9 SDG12	SCIE
11.	Dr. S. Ojha	Evaluation of Mechanical and Tribological Properties of Biowaste and Biowaste Based Silica Particulate Epoxy Composites	SDG9 SDG12	SCIE
12.	Dr. S. Ojha	State of the art in functionally graded materials	SDG9 SDG12	SCIE
13.	Dr. S. Ojha	Study on mechanical and tribological characteristics of layered functionally graded polymer composite materials	SDG9 SDG12	SCIE
14.	Dr. M. Om Prakash	Study of environmental behavior and its effect on solid particle erosion behavior of hierarchical porous activated carbon-epoxy composite	SDG9 SDG12	SCIE

S. No	Name of the Faculty	Title of the Paper	SDGs addressed	SCI/Scopus/Conference
15.	Dr. Manoj Dundi	Simple structured and highly efficient passive T-type micromixer with circumferential in-step at entry	SDG9	SCIE
16.	Dr. K. Raja Narender Reddy	Bio-composites: A study on behavior of oil palm mesocarp fiber reinforced KGG.	SDG9 SDG12	SCOPUS
17.	Dr. A. Devaraju	Impact on mechanical properties & Metallographic of solid state welded 2024 & 7075 Al alloy dissimilar joint by varying its parameters	SDG9	SCOPUS
18.	Dr. A. Devaraju	Preparation and characterization of Al-TiO ₂ -Mg composites through powder metallurgy	SDG9	SCOPUS
19.	Dr. G. Srinivasa Rao	Numerical analysis of convective heat transfer on a straight finned tube with different nanofluids	SDG9	SCOPUS
20.	Dr. MD. Sameer	Selection of Optimal EDM Process Parameters for Machining Maraging Steel Using Grey-Fuzzy Relational analysis – An Experimental Approach	SDG9	SCOPUS
21.	Dr. MD. Sameer	Development of Al ₂ O ₃ Nanoparticulate AA6061-T6 Aluminum Alloy Functionally Graded Composites via Friction Stir Processing: Effect of Tool Pin Profile on Mechanical and Tribological Properties.	SDG9	SCOPUS
22.	Dr. G. Srinu	Design and Fabrication of Hybrid Mini Scooter	SDG9 SDG11	SCOPUS
23.	Smt. P. Anitha	An Investigation on microstructure and mechanical behavior of aluminum hybrid metal matrix nanocomposite fabricated through electromagnetic stir casting process	SDG9	SCOPUS
24.	Smt. P. Anitha	Evaluation of mechanical and tribological properties of Aluminum metal matrix composite reinforced with titanium diboride and graphite	SDG9 SDG12	SCOPUS