

rajvada news

Department of Mechanical Engineering

R.V.R. & J.C. College of Engineering, Guntur-522019

Volume 27

January-June 2022

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Department of Mechanical Engineering

Vision and Goals

The Vision of the department is:

"Envisions to be a 'Centre of Excellence' by synergizing quality education with professional and human values, and to instill a broader sense of social responsibility"

The Mission of the department is:

To provide quality education to the students with the fundamental background necessary for an active successful professional career in Mechanical Engineering in general, to impart knowledge and enlighten students to make them competent, self-motivated and expanding their knowledge skills through continuous education, and to inculcate human values and concern for environment and the society.

Goals:

- Develop the Department into a center of Excellence in learning and to conduct UG & PG & Research Programmes in Mechanical Engineering with emphasis on quality.
- Produce Mechanical Engineering Graduates of quality
- To enter into service as middle level officers in Engineering Departments of Private & Government Organizations
- To engage in Design & Manufacturing of goods & Services needed by the society.
- Aim to continuously improve the Teaching & Learning process of the Department by creating opportunities for faculty to upgrade their knowledge and improve their qualifications through research.
- Update syllabus and Laboratories to fulfill the needs of the students so that the graduate student of this college will become one among the best.



Contents

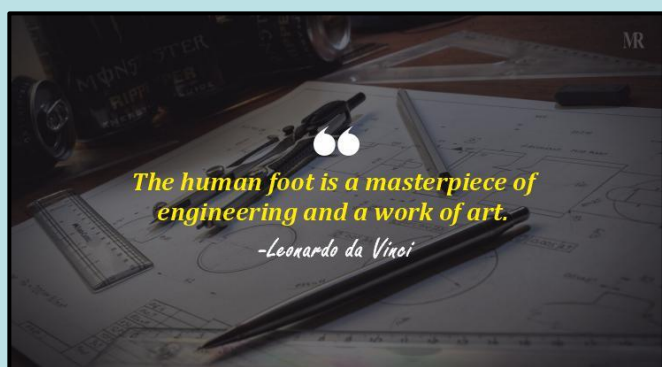
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Research Projects Grant

- ✦ Prof.V.Chittaranjan Das, Dr.K.Praveen Kumar, an AICTE project AICTE project, 'Synthesis and characterization of MWCNT/UHMWPE Nano composites for Orthopedic applications' worth Rs.9,09,166/-
- ✦ Dr.S.Radhika, a DST project, 'Wound dressing material containing copper coated cotton fabrics and piezoelectric electrospun biopolymer nano-fibrous composites' under the Advanced Manufacturing Technologies scheme, Department of Science and Technology (DST), Govt. of India, with the DST's share of Rs. 49, 20, 400/- while the total project cost stands at Rs. 61, 76, 400/-

Internal Research Projects in Progress

- ✦ Research project 'Performance Evaluation of Nickel Coated Alumina Reinforced AZ91E Magnesium Composites for alloy Wheel Applications' of Ch.Devaraj is in progress.
- ✦ Research project 'Experimental Investigation of Herbal based Nano Cutting Fluids with MQL in optimization of Turning' of D.Kondalarao and Dr.G.Srinivasarao is in progress.



Industrial Research Projects in Progress

- ✦ Prof.K.Ravindra, Prof.V.Chittaranjan Das, Dr.K.Praveen Kumar, and K.Snehita were sanctioned Rs.5,50,000/- for their research proposal on 'Mechanical and Electrical Behaviour of Boron & Vanadium Doped Fe-6.5 (Wt. %) Si Soft Magnetic Alloy Ribbons fabricated by Direct Powder Rolling' funded by Sri Venkateswara Electricals Pvt. Ltd, Guntur.
- ✦ Prof.N.V.V.S.Sudheer, Prof.B.RamgopalReddy, Dr.V.Tarachand, Dr.Md.Hasheer were sanctioned Rs.4,50,000/- for their research proposal on 'Improvement of COP of Air-Conditioning Systems by using different types of Insulations and Nano-compressor oil' funded by Design Tribe(India)Pvt. Ltd, Hyderabad.
- ✦ Prof.G.Srinivasarao, Prof.C.Srinivas, Dr.K.Balaprasad, Dr.N.Govind and Ms.Sneha.H.Dhuria were sanctioned Rs.4,00,000/- for their proposal on 'Investigation on Performance Improvement methods of transformer

using Nano fluids in the perspective of cooling' funded by Sri Venkateswara Electricals Pvt. Ltd, Guntur.

- ✦ Dr.C.Tarasasanka, Dr.S.Radhika, J.P.Karthik were sanctioned Rs. 4,00,000/- for their research project proposal on 'Evaluation and Optimization of process parameters for agitation in concrete mixing' funded by Design Tribe(India)Pvt. Ltd, Hyderabad.
- ✦ Prof.K.Srinivas, Prof.D.V.V.KrishnaPrasad, Dr.G.Chaitanya, Dr.V.Ramakoteswararao, J.Rangaraya chowdary were sanctioned Rs.4,50,000/- for their research proposal on 'Development and characterization of Boron & vanadium doped fe-6.5(wt. %) Si soft magnetic alloy ribbons with Tio2 coatings' funded by Sri Venkateswara Electricals Pvt. Ltd, Guntur.
- ✦ Ch.Devaraj, Dr.M.Vijaya, Dr.A.Muddu, G.Kishore Chowdary, K.Hari Prasad were sanctioned Rs. 8, 00,000/- for a research proposal on 'Influence of Heat Treatment on the Characterization of Alumina reinforced AZ91 Mg Alloy Metal Matrix Composites' - funded by Virinchi Infrastructure Pvt. Ltd.,
- ✦ Dr.R.Srinivasulu, D.Swapna, K.Lakshmi Chaitanya, D.Kondalarao, Y.N.V.Sairam, T.N.S.RamaKrishna were sanctioned Rs.2,00,000 for proposal on Optimization of Selective Laser Melting(SLM) Process Parameters using Taguchi and Super Ranking Concepts to Produce Ti-6Al-4V Alloy Samples'-funded by Design Tribe (India) Pvt.Ltd., Hyderabad.

FDP Organized

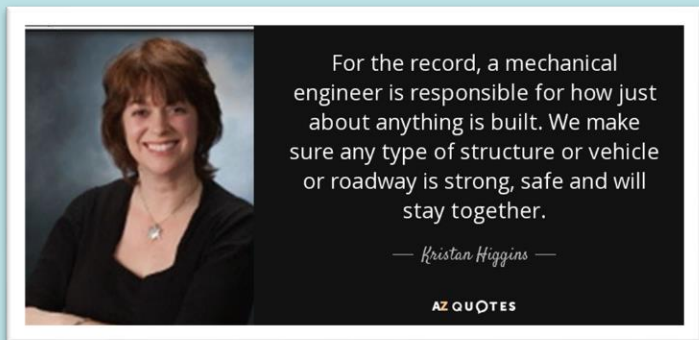
- ✦ S.Radhika, 12 module Online Investor Awareness Program, 'Financial Literacy for You' (FLY), sponsored by the National Institute of Securities Markets, and Securities and Exchange Board of India, Government of India, New Delhi, 7 Oct.2021 - 7 July, 2022.



Patents Applications Filed/applied/ Published

- ✦ D.V.V.Krishna Prasad, G.Kishore Chowdary, M.Vijaya, J.Rangaraya Chowdary, D.Chakradhar filed a patent on 'Electric Scooter for Handicapped', Application No: 355258-001, Dec, 2021 at IPR India.

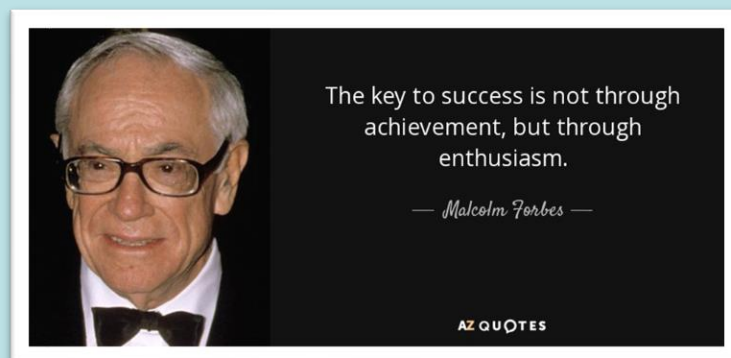
- ✦ B.Ramgopal Reddy, K.Lakshmi Chaitanya, Ch.Devaraj, K.Suryanarayana and K.Hari Prasad filed a patent on 'Door Mount Refrigerator', Application No: 355036-001, Dec, 2021 at IPR India.
- ✦ K.Praveen Kumar, K.Snehita, Sk.Mabunni, D.Kondala Rao and T.N.S.RamaKrishna filed a patent on 'A Mechanical Vehicle Tyre Cutting Machine', Application No: 354860-001, Dec, 2021 at IPR India.
- ✦ V.Ramakoteswara Rao, Md.Hasheer, A.Muddu, P.Siddartha and Ms.Sneha.H.Dhoria filed a patent on the design application of Agricultural Robot Application No: 355374-001 at IPR India.



Research Paper Publications

- ✦ M.Anuradha, V.ChittaranjanDas, C.Muralimohan,'Effect of filler materials on dissimilar TIG welding of Inconel 718 to high strength steel', Materials Today Proceedings,Vol.52(3),1314-1320, 2022.(Scopus Indexed)
- ✦ Hari Prasad Rao Pydi, V Chittaranjan das, Robson Gena,' Mechanical Properties of Aluminum Based Metal Matrix Composites – A Review', International Journal of Mechanical Engineering, Vol. 7(2), ISSN: 0974-5823, Feb, 2022.
- ✦ S. Rama Rao, M.Ravi Kumar, V.Rama koteswarao Rao, 'Multi-objective optimization in turning of -Sic composites using desirability analysis', Materials today proceedings, Vol: 56(3), 1281-1289, 2022. <https://doi.org/10.1016/j.matpr.2021.11.256>.(Scopus)
- ✦ Y.Shireesha, N.Govind, 'Optimization Using Response Surface Methodology and Artificial Neural Network in Geared Drilling', International Journal of Modern Manufacturing Technologies, <https://doi.org/10.54684/ijmmt.2021.13.2.116>. (Scopus).
- ✦ Jaya Sai Abhaya Veeranjanya Vara Prasad Alapati, Naga Venkata Sairam Yellapragada, Sameer Kumar Devarakonda, Kondala Rao Dasari, Naga Sai Rama Krishna Thati,'Effectiveness of Shannon Entropy Weight on Wear Behaviour of Polyester/Carbon Fibre Composites Using GRA', Annales de Chimie - Science des Matériaux,International information and Engineering Technology Association,vol.46(1), Feb.2022. (WOS,Scopus)

- ✦ G. Kishore Chowdari, D. V. V. Krishna Prasad and S. B. R. Devireddy, 'A micro mechanical and numerical model for effective thermal conductivity of areca fiber and coconut shell particulate reinforced hybrid composites', International Journal of Computational Materials ScienceandEngineering,11(03),April,2022. <https://doi.org/10.1142/S2047684122500063> (WOS,SC OPUS)
- ✦ M.Usha, G.Srinivasa Rao, 'Machining Aspects of Al₂O₃ Nano Cutting Fluids – A Comparative Study', Tribology in Industry, Vol. 44(1),1-15,2022, DOI: 10.24874/ti.1032.12.20.03.
- ✦ Mohamad Reda A. Refaai , Stalin Narayanasamy, V. Chittaranjan Das, D. V. S. S. V. Prasad, N. Nalini, Subash Thanappan, 'Mechanical Properties of Ramie/Hemp Hybrid Composites Influenced by Stacking Arrangement and NaOH Treatment', Advances in Polymer Technology, <https://doi.org/10.1155/2022/8737669>.(SCI)
- ✦ YNV Sai Ram, C.Tarasasanka, J Prabakaran, 'Optimization of Dry-Sliding Wear Parameters on Lanthanum Hexa-Aluminate Reinforced Magnesium AZ91E Composites Using Grey Relation Analysis', Nano Hybrids and Composites, ISSN:2297-3400, Vol.35, 55-73, April, 2022. <https://doi.org/10.4028/P-08W7LK> (ESCI,WOS).
- ✦ Y.N.V.Sai Ram, C.Tarasasanka, J.Prabakaran, 'Mechanical and Tribological Studies on AZ91E Magnesium alloy reinforced with Lanthanum Hexa-aluminate nano particles', Arabian Journal for Science and Engineering, April,2022 (SCIE,SCOPUS,WOS). <https://doi.org/10.1007/S13369-022-06780-Y>
- ✦ Reddy Sreenivasulu, 'Industrial Digitalization with Fourth Dimensional (4D) Printing - Novel Technology: Brief Review on Developments, Challenges and Applications', Gazi University Journal of Science, ISSN: 2147-1762, Vol:35(2), 682-693, June 2022, DOI: 10.35378/gujs.906652. (SCOPUS)
- ✦ Ramgopal Reddy Bijjam, Srinivas Chandanam, Govind Nandipati, Sneha H. Dhoria, 'Optimization of Machining Parameters in Drilling of Glass/Hemp/Bamboo Fibres Based Hybrid Polymer Composites', Annales de Chimie - Science des Matériaux, Vol. 46(3), 127-133, 2022 (WOS,SCOPUS).



Paper Presentations in Conferences

- ✦ Dr.S.Radhika 'An Intelligent Garbage Management System: an IoT based application', 3rd International Conference on Advanced Engineering Optimization through Intelligent Techniques (AEOTIT), organized by the Department of Mechanical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat during 28-30 January, 2022.

“Design is not just what it looks like and feels like. Design is how it works.”

Steve Jobs

Conferences/Workshops/Webinars Attended

- ✦ TNS Ramakrishna, AICTE Training and Learning Academy Online Elementary FDP, 'Robotics and Artificial Intelligence', Lakireddy Bali Reddy College of Engineering, Mylavaram, Feb, 7-11, 2022.
- ✦ T.N.S.Rama Krishna, SERB Sponsored Five-Day Online Workshop, 'Recent Advances in Manufacturing Processes for Industrial Applications', Department of ME, National Institute of Technology Karnataka, Surathkal Feb, 21-25, 2022.
- ✦ G.Kishore chowdari, FDP, 'Teaching and learning in higher and professional education the challenges and opportunities', Institute for engineering research and publication, 18, April,2022.
- ✦ S.Radhika, 6-Tracks Training Program on 'Alumni Relations' Vaave in the Alumni Leadership Program, May, 13-17, 2022.
- ✦ K. Bala Prasad, V.Tarachand, AITCE 5-Day FDP, 'IPR Management', National Institute of Technology, Mizoram, 27 June - 1 July, 2022.

- ✦ N.Govind, STC, 'Emerging Trends in Renewable Energy Technologies', Department of Mechanical Engineering, MNIT, Allahabad, June, 20-24, 2022.

Ph.D Awarded Under Faculty Guidance

Under the guidance of Professor V.Chittaranjan Das, RVRJCCE, 2 Ph.Ds were awarded -

- ✦ i) Mr. R.Vijay Prakash, by ANU, in Feb, 2022. The title of the thesis is Characterization of Hybrid Metal Matrix Composite (AL7075/B4C/ZrO₂) and Optimization of EDM Machining parameters using RSM Method.
- ✦ ii) Mrs. Nannepaga Sulakshna, by ANU, Feb, 2022. The title of the thesis is Experimental Investigation and Optimization of Process parameters using Cryogenic cooled Micro Electrical Discharge Machining of INCONEL-825 by utilizing TOPSIS Method.
- ✦ Under the guidance of Dr.G.Chaitanya one Ph.D was awarded.
- ✦ 1. Mrs. M.L.Aparna, by ANU, Feb, 2022. The title of the thesis is Investigations on fatigue damage and repair of sika 430GSM fiber composite, Feb, 2022.

