**RESEARCH ACHIEVEMENTS**

**Department of Mechanical Engineering**

1. **RESEARCH PAPER PUBLICATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Academic Year** | **SCI** | **Scopus** | **Others** | **Total Journal Paper** |
| 2024-25 | 5\* | 1\* | 2 | 8 |
| 2023-2024 | 4 | 4 | 7 | 15 |
| 2022-2023 | 1 | 5 | 9 | 15 |
| 2021-2022 | 2 | 2 | 7 | 11 |
| 2020-2021 | 2 | 4 | - | 6 |
| Total | 14 | 16 | 25 | 55 |

**Academic Year: 2024-25**

**Paper Presentation**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.****No** | **Authors** | **Paper Title** | **Photos** |
| 1 | Dr. R Sanjeev Kumar | Application of Flower Pollination Algorithm to multi-objective flowshop sequencing and scheduling problems | A collage of people at a convention  Description automatically generated2nd International Conference on Evolutionary Artificial Intelligence (ICEAI 2024)**,** Taylor’s University, Malaysia |
| 2 | Dr LoganathanDr P.Satyanarana Raju | Design and Development of a Pneumatically Powered Exoskeleton Suit for Enhanced Mobility and strength | A group of men standing in front of a banner  Description automatically generatedInternational Conference on Mechanical Engineering and Electrical Systems, IEEE Forum, Goa. |

**FACULTY PUBLICATIONS A.Y.2024-25**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.****No** | **Authors** | **Article Title** | **Journals / Conference Name** | **Status** | **SCI / Scopus/****UGC Care**  |
| 1 | Dr. R Sanjeev KumarDr. A GopichandDr R Lalitha Narayana | Green synthesis and coating of composite nanomaterial on mild steel for corrosion resistance | Journal of Mechanical Science and Technology | Under review | SCI |
| 2 | Dr R Lalitha NarayanaDr. A Gopichand Dr. R Sanjeev KumarG Veerendhra Kumar |  Enhancing the efficiency of passive solar still using wooden piece | Frontiers in Energy | Under review |  SCI |
| 3 | B. SrinivasDr. A Gopichand | A study on the utilization of Graphene based nanofluids to enhance heat transfer in double pipe heat exchangers | Australian Journal of Mechanical Engineering | Under review | SCI |
| 4 | Dr LoganathanDr P.Satyanarana RajuDr A. GopichandDr. M. Francis Luther King | Nano Catalysts for Biofuel Production: A Review | Journal of Oilseed Brassica | Under review | SCI |
| 5 | Dr. R Sanjeev Kumar | Sol-gel spin-coated Transparent Double layered and eco-friendly TiO2 thin films using Banana (Musa Acuminata) leaves extract for anti-reflection coating (ARC) | Journal of Materials Science: Materials in Electronics | Under review | SCI |
| 6 | Dr P.Satyanarana RajuDr A. GopichandDr. M. Francis Luther King Dr Loganathan | Multifunctional ZnO Coating on FTO Glass Substrate for Solar Piezoelectric and Self Power Applications | Nanotechnology and Green Energy | Under review | UGC Care |

**FACULTY PUBLICATIONS A.Y.2023-24**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.****No** | **Authors** | **Article Title** | **Journals Name** | **ISSN** | **SCI / Scopus/****UGC Care**  |
| 1 | Dr. R Sanjeev Kumar and Dr. A Gopichand | Synthesis and evaluation of silicondioxide nanoparticle coating as corrosioninhibitor for mild steel | Journal of Mechanical Science and Technology | 1738-494X /1976-3824 | SCI |
| 2 | P Satyanarayana Raju and Dr. A Gopichand | Inexpensive production of hydrophobic and corrosion resistance titania-silica composite coating for deep water sandwich pipe applications | Australian Journal of Mechanical Engineering | 1448-4846 | SCI |
| 3 | Dr. M. Francis Luther | Enhancement of corrosion resistance of CrMoV low alloy steels using cryogenic treatment | Engineering Research Express | 2631-8695 | SCI |
| 4 | Dr. M. Francis Luther | [Corrosion Characterisation of Low Alloy CrMoV Steel Before and After Cryogenic Heat Therapy](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=c1l3KOkAAAAJ&sortby=pubdate&citation_for_view=c1l3KOkAAAAJ:3fE2CSJIrl8C) | Journal of Polymer & Composites | 2321-8525 /2321-2810 | SCI |
| 5 | Dr. M. Francis Luther King | [Cryogenic Treatment of Chromium–Molybdenum–Vanadium Steels: Unveiling Microstructural Features and Improved Mechanical Properties](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=c1l3KOkAAAAJ&sortby=pubdate&citation_for_view=c1l3KOkAAAAJ:MXK_kJrjxJIC) | Journal of The Institution of Engineers (India): Series D | 2250-2122 | Scopus |
| 6 | P Satyanarayana Raju and Dr. A Gopichand | Optimization of sandwich pipes for deep water applications: An designing approach | Materials Today: Proceedings | 2214-7853 | Scopus |
| 7 | Dr. A Gopichand | Inexpensive hydrophobic and infrared reflective coating on the cotton and silk fabrics using sol gel dip coating technique | Materials Today: Proceedings | 2214-7853 | Scopus |
| 8 | Dr. A Gopichand,Dr. M. Francis Luther King,  Dr. R. Lalitha Narayana  | Synthesis of silver oxide nanoparticles using gomutra mediation and their investigation on anti oxidant property  | Materials Today: Proceedings | 2214-7853 | Scopus |
| 9 | Dr. R Sanjeev Kumar, S Surendar and L Ravi Kishore | Design And Analysis of Car Wheel Rim With Composite Materials | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 10 | Dr Dolla Bhanu Prakash, V Durga Rao and R V Manikanta  | Fabrication of blade system stirrer setup for stir casting | Juni Khyat | 2278-4632 | UGC Care1 |
| 11 | B Srinivas, G Veerendra Kumaar and Saravanan M | Fabrication of solar water pump for gardening | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |
| 12 | B Mahesh Krishna, B Harita and Ch Uma Mahesh | Earing and Fabrication using Additive manufacturing and FEM | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 13 | Ch Harish Kumar, Abdul Azeez and Kollu Srinivasa Rao | Kinematic Analysis of 4R Robot Manipulator using Roboanalyzer and CProg | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 14 | Dr. G Robert Singh, John Bunyan V and Chirapa Srinivas | Fabrication of dichlorination and thermal cracking equipment for PVC electrical cables | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |
| 15 | N Bulliraju, V Rambabu and P Saranya | Performance Enhancement Of Passive Solar Still With Paraffin Wax  | Juni Khyat | 2278-4632 | UGC Care1 |

**FACULTY PUBLICATIONS A.Y.2022-23**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.****No** | **Authors** | **Article Title** | **Journals Name** | **ISSN** | **SCI / Scopus/ UGC Care** |
| 1 | Dr. R.Sanjeev Kumar | Influences of various natural fibers on the mechanical and drilling characteristics of coir-fiber-based hybrid epoxy composites | Engineering Research Express | 2631-8695 | SCI |
| 2 | Dr. [G. Robert Singh](https://www.sciencedirect.com/science/article/pii/S221478532201080X?via%3Dihub#!) and Dr. [Francis Luther King](https://www.sciencedirect.com/science/article/pii/S221478532201080X?via%3Dihub#!) | An experimental study on friction stir processing of aluminium alloy (AA-2024) and boron nitride (BNp) surface composite | Materials Today: Proceedings | 2214-7853 | Scopus |
| 3 | P Satyanarayana Raju and Dr. A Gopichand | Strength and corrosion characteristics of sandwich pipes for deepwater applications | Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems | 1006-5911 | Scopus |
| 4 | Dr. R.Sanjeev Kumar  | Influences of Fabrication Parameters on Natural Fiber Reinforced Polymer Composite (NFRPC) Material: A Review | Materials Science Forum | 0255-5476 |  Scopus |
| 5 | Dr. [M. Francis Luther King](https://www.sciencedirect.com/science/article/pii/S221478532105896X?via%3Dihub#!) | [Thermal performance of a double-glazed window integrated with a phase change material (PCM)](https://www.researchgate.net/publication/354747340_Thermal_performance_of_a_double-glazed_window_integrated_with_a_phase_change_material_PCM?_sg%5B0%5D=PiV5wR5UrEsoeGI91V3LYKKZVlSoUtEqlfsDIQFxms9tNUo4qlmxo7vgfSBvGL5NNS5SfqttrDnEKGykU9pMjj_pnQeWCK8BZ3cEDsfr.SG0KqcNZn-bvfKEZh5XxFQYmjRm8XXyoA9OAnJhJ85QzqBsSTo2RpElopimnudZHa8VvNLxImzUYLXxzuNJvEA) | Materials Today: Proceedings. | 2214-7853 | Scopus |
| 6 | Dr. [M. Francis Luther King](https://www.sciencedirect.com/science/article/pii/S221478532105896X?via%3Dihub#!) | Acrylic Rubber-Reinforced Halloysite Nanotubes/Carbon Black Hybrid Fillers for Oil Seal Applications: Thermal Stability and Dynamic Mechanical Properties | Advances in Materials Science and Engineering | 1687-8442 | Scopus |
| 7 | Dr .R. Sanjeev kumarDr .A.GopichandB. Mahesh KrishnaP.S.N Raju | Design and printing of foldable helmet using 3D printer | Industrial Engineering Journal | 0970-2555 | UGC Care1 |
| 8 | B. Mahesh KrishnaDr .A.GopichandCH. Harish kumar.Dr .R Lalith narayana. | Design of solar electrical scooter using fusion 360 | Industrial Engineering Journal | 0970-2555 | UGC Care1 |
| 9 | V.John BunyanDr. Francis Luther King, Dr.A.GopichandDr. D. Bhanu Prakash | Computational fluid dynamic analysis on rocket nozzle using Ansys | Industrial Engineering Journal | 0970-2555 | UGC Care1 |
| 10 | Dr. R. Lalitha Narayana.Dr.A.Gopichand,Dr.D. Bhanu prakash.P.S.N RajuDr.G.Robert SinghDr. R. Sanjeev Kumar | Experimental investigation of passive solar still with coated copper fins  | Journal of fundamental & comparative research | 2277-7067 | UGC Care1 |
| 11 | Ravi Kishore L, Chirapa Srinivas, Kolluru Ramakrishna | An Autonomous UAV for Spraying Pesticides | Juni Khyat | 2278-4632 | UGC Care1 |
| 12 | N Bulliraju, V Durga Rao, G Shankar Rao | A Look at Drones Used for Fertilizer and Pesticide Spraying | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 13 | B Srinivas, V Rambabu, B Harita  | The History of Modern Mechanical Ventilation and Its Applications in Medicine | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 14 | G Veerendra Kumaar, Abdul Azeez, B Venkatesh | Online Estimation Variables for the Analysis of Ground Vehicle Inertia Properties | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |
| 15 | Saravanan M, S Surendar, Jyothi Sri | Incorporating cutouts into composite thin circular plates drastically changes their dynamic behavior | Juni Khyat | 2278-4632 | UGC Care1 |

**FACULTY PUBLICATIONS A.Y.2021-22**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.****No** | **Authors** | **Article Title** | **Journals Name** | **ISSN** | **SCI / Scopus/ UGC Care** |
| 1 | Dr. R. Sanjeev Kumar &Dr. A.Gopichand | Fabrication, Microstructuraland Mechanical behaviour of Al-ZrO2-TiC hybrid metal matrix Composite | Comptes rendusde l’Acad ́emie bulgare des Sciences | 1310-1331 | SCI |
| 2 | Dr. R.Sanjeev Kumar &Dr. G.Robert Singh | The Influence of Human hairon Kenaf and Grewia fiber based hybrid natural composite material | Functional Compositesand Structures | 2631-6331 | SCI |
| 3 | Dr. M. Francis Luther King | Optimizing GMAW parameters to achieve high impact strengthof the dissimilar weld joints using Taguchi approach | Materials Today: Proceedings | 2214-7853 | Scopus |
| 4 | P Satyanarayana Raju &Dr. A Gopichand | Design and simulation of sandwich pipes for Deepwater applications | Wulfenia | 1561-882X | Scopus |
| 5 | Dr. R Lalitha Narayana, Chirapa Srinivas, Abdul Azeez | Durability and mechanical properties of concrete maximized by partially replacing cement with wood waste ash | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |
| 6 | Dr. Dolla Bhanu Prakash, Saravanan M, V Rambabu  | An examination of the rigidity of a three-puzzle uniaxial kinematic apparatus | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 7 | B Srinivas, G Veerendra Kumar, Ravi Kishore L | Thermodynamic Modeling of a Gas-Fired Power Plant's Exhaust Heat Exchanger | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 8 | B Mahesh Krishna, D Padmavathi, S V Prasad | By comparing their power consumption, we can evaluate the dynamic reliability of mechanical additives. The Ways of Decline | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |
| 9 | C Harish Kumar, J Naresh babu, K Mohan Prasad | How the aspect ratio of a serial chain is related to its condition number in a generalized inertia matrix | Juni Khyat | 2278-4632 | UGC Care1 |
| 10 | N Bulliraju, P Satish, Ch Madhu Venkata Narayana | The AA 6063 T6 aluminum alloy was turned using a large number of Reactions Taguchi L9 orthogonal arrays and Grey relational analysis. | Indian Journal of Technical Education | 0971-3034 | UGC Care1 |
| 11 | John Bunyan V, B Harita, L Bosu babu | Design optimization of mechanical parts by use of a more complex suite of optimization algorithms founded on the differential operator and based on teaching-learning | Journal of Management and Entrepreneurship | 2229-5348 | UGC Care1 |

**FACULTY PUBLICATIONS A.Y.2020-21**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.****No** | **Authors** | **Article Title** | **Journals Name** | **ISSN** | **SCI / Scopus/ UGC Care** |
| 1 | Dr.G.Robert Singh &Dr. R. Sanjeev Kumar | Tensile and compression behavior, microstructural characterizationon Mg-3Zn-3Sn-0.7Mn alloy reinforced with SiCp prepared through powder metallurgy method | Materials Research Express |  2053-1591 | SCI |
| 2 | Dr. M. Francis Luther King | Failure analysis of Shackle Bracket in Airbus suspension under dynamic loading conditions | Engineering Failure Analysis  |   1350-6307 | SCI |
| 3 | R. Sanjeev kumar | Design optimization of Airless Tyre - Numerical Approach | IOP Conf. Series: Materials Science and Engineering | 1757-8981 | Scopus |
| 4 | Dr. Francis Luther King, Dr.G.Robert Singh,Dr. R. Sanjeev Kumar | Hardness and Surface Scratch Resistance of Basalt/Bagasse fibre Reinforced Poly Lactic Acid Polymer Composites | International Journal of Engineering Trends and Technology (IJETT)  | 2231-5381 | Scopus |
| 5 | Dr. R. Lalitha Narayana,B. Srinivas, V. John Bunyan,N. Bulli Raju | Effect of Fin Height on Performance of Passive Solar Still in Indian Coastal Conditions | International Journal of Mechanical and ProductionEngineering Research and Development  |  2249–6890 | Scopus |
| 6 | Dr. R. Lalitha Narayana,V. John Bunyan,N. Bulli Raju | Experimental Investigation of Friction Welding on Similar Al Plate and Tube | International Journal of Mechanical and ProductionEngineering Research and Development  | 2249–6890 | Scopus |

**II. BOOK CHAPTER PUBLICATION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Name of the Faculty** | **Book Title** |  **Chapter Title** | **ISBN**  | **Publisher** | **Academic Year** |
| 1 | Dr. M. Francis Luther king | Sustainable Utilization of nano particles and nano fluids in Engineering Publication | Applications of Nanoparticles in the cosmetic field | 9781668491355 | IGI Global | 2023-24 |
| 2 | Dr. M. Francis Luther king | Mechanical Properties and Characterization of Additively Manufactured Material | Review of properties of additive manufactured material and composites | 9781032392776 | CRC Press | 2023-24 |
| 3 | B. Mahesh Krishna, Dr. M. Francis Luther king, Dr. G. Robert Singh, Dr. A. Gopichand | Advanced Materials and Manufacturing Techniques for Biomedical Applications | 3D Printing in Drug Delivery and Healthcare | 9781394166961 | Wiley | 2023-24 |
| 4 | Dr. M. Francis Luther king, Dr. G. Robert Singh, Dr. A. Gopichand | Advanced Materials and Manufacturing Techniques for Biomedical Applications | Challenges and Perspective of Manufacturing Techniques in Biomedical Applications | 9781394166961 | Wiley | 2023-24 |
| 5 | Dr. M. Francis Luther king | Hybrid Metal Additive Manufacturing: Technology and Applications | Additive manufacturing for Industry 4.0 | 9781032460550 | CRC Press | 2023-24 |
| 6 | Dr. M. Francis Luther king | Laser based Technologies for sustainable Manufacturing | Introduction to Optics and Laser based Manufacturing Technologies | 9781032392738 | CRC Press | 2023-24 |
| 7 | Dr. M. Francis Luther king | Laser based Technologies for sustainable Manufacturing | Application of Laser Technology in the Mechanical and Machine Manufacturing Industry | 9781003402398 | CRC Press | 2023-24 |
| 8 | Dr. M. Francis Luther king | Laser based Technologies for sustainable Manufacturing | Laser Micromachining in Biomedical Industry | 9781003402398 | CRC Press | 2023-24 |
| 9 | Dr. M. Francis Luther king | Biodegradable composites for Packagingapplications | Degradation studies of biodegradable composites  |  9781032131511 | CRC Press | 2022-23 |
| 10 | Dr. R. Sanjeev Kumar | Trends, Paradigms, and Advances in Mechatronics Engineering | Hydroponics, Aeroponics, and Aquaponics Technologies in Modern Agricultural Cultivation | 9781668458877 | IGI Global | 2022-23 |
| 11 | Dr. M. Francis Luther king | Education for Sustainable Development | Global Action Programme on Education for Sustainable Development to BuildMomentum | 9789392042157 | Annamalai University Chennai | 2022-23 |
| 12 | Dr. M. Francis Luther king | Women Empowerment | Health, Hygiene and Nutrition for Women  | 9789392042171 | Annamalai University Chennai | 2022-23 |
| 13 | Dr. R. Sanjeev Kumar | Nanosensors for Smart Agriculture | Automatic Irrigation Control by Using Wireless Nanosensor Network | 9780128245545, 2021 | Elsevier | 2020-21 |

**III PATENT DETAILS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **APPLICANT NAME** | **APPLICATION NUMBER** | **TITLE OF INVENTION** | **Filed / Published Year** |
| 1 | P. Satyanarayana Raju & Dr. A. Gopichand | 202031023869 | Sandwich pipe for deep water applications | 2020 |
| 2 | Dr. R. Sanjeev Kumar | 202041052613 | Remote supply supervisory and control of Industrial 3D Printers in array subjected to Manufacturing through IOT Cloud Interface Module | 2020 |
| 3 | Dr. M Fancies Luther King | 202041025394 | Automatic touchless mist spray sanitizer dispenser | 2020 |
| 4 | P. Satyanarayana Raju  | 202241037614 | Cloud based hybrid grid tied solar vehicle super charging station | 2022 |
| 5 | P. Satyanarayana Raju & Dr. A. Gopichand | 202231034008 | Bending strength and corrosion analysis on the fabricated sandwich pipe for deepwater applications | 2022 |
| 6 | P. Satyanarayana Raju & Dr. A. Gopichand | Design No: 380244-001 | Design to Water Pipe | 2023 |
| 7 | Dr. M Fancies Luther King |  | Braille Bracelet | 2024 |

**IV LIST OF FACULTIES CURRENTLY PURSUING PHD**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Guide Name** | **Area of research** | **Institute/****University** | **Status** |
| 1 | P. Satyanarayana Raju | Dr A Gopichand | Sandwich Pipe Design | GIET University, Gunupur, Odisha | Awarded (2024) |
| 2 | B. Srinivas | Dr A Gopichand | Heat Exchanger | GIET University, Gunupur, Odisha | Pursuing (Reg.-2020) |
| 3 | V Durga Rao | Dr VVK Prasad | Compositematerial | Acharya Nagarjuna University, Andhra Pradesh | Pursuing(Reg.No-2022) |