

Mechanical Engineering Department – Research projects

| S. No. | Name of the Project (File no.) | Name of the Principal Investigator (PI) / Co-Investigator | Name of the funding agency | Date of sanction | Term of the project | Total Grant-in-aid (Rs.) |
|--------|---|---|--|------------------|-----------------------------|--------------------------|
| 1 | Sophisticated Analytical & Technical Help Institutes (SATHI) | CBIT | DST | | 2023-27 | 6000 |
| 2 | Design and Development of low cost LVAD | Dr. P. Ravinder Reddy | MSME | | 2023-24 | 15 |
| 3 | Development of image matching techniques for Camouflaging of various terrains/assets of sites | Dr. N. Janardhan (Co-Investigator) | ASL, DRDO | | 2023-2026 | 9.5 |
| 4 | Digital twin based solutions for improving reliability and efficiency of multistage wind turbine gear boxes | Dr Inturi Vamsi (Co-PI) | DST-SERB | | 2023-26 | 28.08 |
| 5 | Stress analysis of Casting 12T15 | Dr. Ch.Venkata Sushma Dr. P. Kiran Kumar | UCONPT STRUCTURAL SYSTEM PVT LTD | | 05-04-2024 to 30-06-2024 | 60,000 + GST |
| 6 | Ultrasonic Gas Flow Meter (Design and CFD Simulation) | Dr Indira Priyadarshini | Skylark Smartmeters Pvt. Ltd., Hyderabad | | 2022-23 | 1,84,000 |
| 7 | Image Analysis and Website Development | Dr. Amireddy Kiran Kumar Mrs Ch.Venkata Sushma | Bold Knight by BNK Production services Pvt. Ltd., Hyderabad | | 2023-23 | 1,18,000 |
| 8 | Modelling and analysis of 42U CKD type rack | Dr. G. Laxmaiah Dr. A. Kiran Kumar | BRAVLD Engineering Pvt. Ltd | | March 2023 | 18,880 |
| 9 | Thermo-structural studies on RCC structures for impact analysis | Dr. N. Janardhan | ASL-DRDO | *approved | | 950000/- |
| 10 | Development of ceramic coated diesel engine fuelled with CNG and biodiesel blended (9-242/IDC/MODROB/Policy-1) | Dr. M.V.S. Murali Krishna | AICTE- MODROB | 20.07.2020 | 2020-22 | 947325/- |
| 11 | Experimental and numerical investigations on friction stir welding of Aluminium and Magnesium alloys (MRP-6749/16 GEN) | Dr. P. Ravinder Reddy | UGC-SERO | 15.03.2018 | 2018-20 | 270000/- |
| 12 | Design and development of components of artificial heart | Dr. P. Ravinder Reddy | CBIT | 16.03.2017 | 2016-21 | 5000000/- |
| 13 | Implementation of composite materials wind blades in wind mill (WOS-A-ET-1092/2015) | Mrs. Ramayee L & Dr. P. Ravinder Reddy | DST | 26.10.2015 | 2015-19 | 2779000/- |

Mechanical Engineering Department – List of Patents

| S. No. | Title of the invention | Name of inventors | Application No. | Status | Publication Date | Date of filing |
|---------------|---|--|------------------------|----------------------|-------------------------|-----------------------|
| 1 | An apparatus and method for joining of weldable or non-weldable Materials | Dr. P. Ravinder Reddy & TATA Technologies PTE Ltd. | 1550/MUM/2013 | Granted (27.11.2020) | 20.03.2015 | 29.04.2013 |
| 2 | Tribological behavior of hybrid fiber reinforced friction material | Dr. P. Ravinder Reddy, K B Jagadeeshgouda & Dr. K. Eshwaraprasad | 201641028876 | Published | 02.09.2016 | 24.08.2016 |
| 3 | Flame-retardant poultry-feather-fiber-non-woven-sheet and process for the making same | Dr. P. Ravinder Reddy & K B Jagadeeshgouda | 201641032709 | Published | 07.10.2016 | 26.09.2016 |
| 4 | A composite material extrusion and method of manufacturing thereof | Dr. P. Ravinder Reddy, Dr. Ishtiaq Ahmed Khan, Mr. Aleem Pasha & Mr. P.V. Kaulgud | 201741015659 | Granted | 12.05.2017 | 03.05.2017 |
| 5 | Blood pump impeller (*design patent) | Dr. P. Ravinder Reddy & T Rugveda | 305590 | Published | 24.12.2021 | 06.01.2018 |
| 6 | Magneto blood pump (*design patent) | Dr. P. Ravinder Reddy & T Rugveda | 306263 | Published | 08.04.2022 | 14.05.2018 |
| 7 | CNG/Natural gas kit design for two wheelers | Dr. Rakesh Kumar Yadav, Dr. Arti Vaish, Mr. Amardeep, Mr. Dushyant Mishra, Dr. S. Narasimha Kumar & Dr. B. Subbaratnam | 202011030786 | Published | 28.08.2020 | 20.07.2020 |
| 8 | Machine learning based ball throwing machine | Dr. G. Sailaja, Dr. B.V.S. Rao, Dr. Raju Muthyala, Dr. G. Prasanna Kumar, Dr. Akash Kumar Bhoi, Dr. Pradeep Kumar Mallick, Dr. Ranjit Panigrahi, Dr. Priya Brata Bhoi, Arshad Mohammed & Dr. Mahaboob Shaik, | 202041040702 | Published | 01.10.2020 | 21.09.2020 |
| 9 | Design and development of two-wheeler mud guard using glass and jute | Dr. A. Raveendra, Dr. P. Badari Narayana, Dr. S. Narasimha Kumar & Mr. P. Govinda Reddy | 202141008703 | Published | 12.03.2021 | 02.03.2021 |
| 10 | Deep learning-based adaptive windmill compensation system and method thereof | Sailaja G, Dr. B.V.S.Rao, Dr. Prasanna Kumar, Mohd Hasham Ali, Satti Satheeswara Reddy, NBV Lakshmi Kumari & Arshad Mohammed | 202141042314 | Published | 01.10.2021 | 18.09.2021 |
| 11 | Control on pollution levels of petrol engine with low-cost catalytic converter | Dr. M.V.S. Murali Krishna, Mrs. Ipsita Mohanty, Dr. Ch. Indira Priyadarshini & Dr. S. Narasimha Kumar | 202141044968 | Published | 05.11.2021 | 04.10.2021 |
| 12 | Control of exhaust emissions of auto rickshaw engine run with diesel fuel | Dr. M.V.S. Murali Krishna, Dr. T. Ratna Reddy, Dr. K. Kishor & Dr. Y. Nagini | 202141044969 | Published | 05.11.2021 | 04.10.2021 |
| 13 | Insulated partially adiabatic diesel engine operated with methanol and vegetable oil | CBIT (A) | 202141044970 | Published | 05.11.2021 | 04.10.2021 |
| 14 | Smart blind stick (*design patent) | Mr. Narasimha Kulkani, Dr. Rahul, Mr. Nitin Kamitkar, Mr. Satish Kumar & Mr. L. Ranganath | 352891-001 | Published | 14.01.2022 | 10.11.2021 |
| 15 | Wobbling free magnetic coupled body-fluid pumping apparatus | Dr. P. Ravinder Reddy & T Rugveda | 202141061650 | Published | 21.01.2022 | 30.12.2021 |

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| 16 | Wind turbine duct having exit fold and shallow slots | L. Ramayee, Dr. P. Ravinder Reddy & Dr. K. Supradeepan | 202241004270 | Published | Published - 04.02.2022 | 25.01.2022 |
| 17 | Development of auto pilot delivery drone an unmanned aerial vehicle | Dr. L Suresh Kumar, Dr. Rahul, Mrs. Ch. V. Sushma, Mr. P. Surender Reddy, Mr. D. Ravi, Dr Y.S. Kannan, Dr. B. Veera Jyothi, Mrs. D.S. Madhuri & Mr. Narasimha Kulkarni | 202241023144 | Published | 06.05.2022 | 20.04.2022 |
| 18 | Control of Aldehydes in medium grade insulated Diesel engine with Inexpensive catalytic converter | Dr. M.V.S. Murali Krishna Dr. T. Ratna reddy Dr R.P. Chowdary & Dr. V.V. R. Seshagiri Rao | 202241039528 | Published | 06.07.2022 | 15.07.2022 |
| 19 | Diesel engine with different levels of Insulation for controlling pollution levels | Dr. M.V.S.Murali Krishna Dr. R.P.Chowdary Dr. V.V.R.Seshagiri Rao & Dr. N.Janardhanan | 202241038961 | Granted | 06.07.2022 | 15.07.2022 |
| 20 | Natural bamboo fiber composites with enhanced plastic plate | Dr. Ch. Indira Priyadarshini Mr. K. Gurubrahmam P. Anjani Devi T.N. Aditya Dr. Md. Aleem Pasha & Mr. A. Chandrakanth | 202241050477 | Published | 04.09.2022 | 16.09.2022 |
| 21 | Method and system for detection of delamination in a layered structure | Dr A Kiran Kumar Ammireddy, Ms. Venkata Sushma Chinta, Dr P Ravinder Reddy, Dr S Solomon Raj, Mr.P Radha Krishna Prasad | 202241067170A | published | 22.11.2022 | 23.12.2022 |
| 22 | Robotic manipulator for pick and place applications | Chinta Venakata Sushma, Palla Nishant Bhanu, Shaik Chand Pasha, Amireddy Kiran Kumar, Pinninti Ravinder Reddy, Sara Solomon Raj | 202241067534 | published | 02.12.2022 | 24.11.2022 |
| 23 | Control of pollutant levels of insulated diesel engine operated with CNG and ethanol | CBIT, M.V.S. MuraliKrishna, P.V.R.Ravindra Reddy, S. Narasimha Kumar and Y. S. Kannan, | 202241038958 | Granted | 06.07.2022 | 15.07.2022 |
| 24 | Control of pollutant levels of insulated diesel engine operated with CNG and carbureted methanol | M.V.S.MuraliKrishna, P.V.R.Ravindra Reddy, S. Narasimha Kumar and Y. S. Kannan | 202241038960 | Pubished | 06.07.2022 | 22.07.2022 |
| 25 | Kids friendly saline intravenous | Narasimha Kulkarni, Rahul, P. Surendar Reddy, L. Suresh Kumar, Y. S. Kannan | 362555-001 | Granted | 14.04.2022 | 23.02.2023 |
| 26 | Control Of Aldehydes In High Grade Insulated Diesel Engine With Low Cost Catalytic Converter | M.V.S.Murali Krishna, K. Kishore, Y. Nagini, N. Janardhan | 202241039527 | Published | 09.07.2022 | 15.07.2022 |
| 27 | High Degree Insulated Engine Having Optimized Air Gap Thickness Run With Alternative Fuels | M. V. S. Murali Krishna, Ipsita Mohanty, D.S. Madhuri, K.N.V. Sreedevi | 202241039529 A | Published | 09.07.2022 | 15.07.2022 |
| 28 | Spark Ignition Engine With Copper Coated Piston, Copper Coated Liner And Copper Coated Cylinder Head | M.V.S.MuraliKrishna, K. Kishore, N. Janardhan, K.N.V. Sreedevi | 202241039530 A | Published | 09.07.2022 | 15.07.2022 |
| 29 | Enhancement of transfer of heat in a corrugated heat exchanger | M V S Murali Krishna, N V Rao, B. Sreedhara Rao | 202241038959 A | Granted | 23.01.2023 | 06.07.2022 |
| 30 | Insulated diesel engine fueled with carbureted ethanol and waste plastic oil to reduce pollution levels | M V S Murali Krishna, T Ratna Reddy, K Kishor, S Narasimha Kumar, N V Rao | 202241038957 A | Published | 22.07.2022 | 06.07.2022 |
| 31 | Helmet | Dr. Rahul, Dr. Y. S. Kannan, D. Ravi, P. Surendar Reddy, Dr. L. Suresh Kumar, Dr. Ranjit J. Singh | 390742-001 | Published | 12.10.2023 | 20.07.2023 |
| 32 | Multi-Functional Agricultural Robot | Dr. Y. S. Kannan, D. Ravi, P. Surendar Reddy, Dr. Rahul, Dr. B. Veera Jyothi, Dr. L. Suresh Kumar, Mukund Balraj Vishwanath | 394340-001 | Published | 08.11.2023 | 01.09.2023 |

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| 33 | SOLAR AND WIND ENERGY BASED VEHICLE CHARGING STATION | R.P. Chowdary V.V.R.Seshagiri Rao Ch.Indira Priyadarshini P. Anjani Devi A. Chandrakanth K. Gurubrahmam T.N. Aditya | 409151-001 | Granted | 29.02.2024 | |
| 34 | "SOLAR POWERED GRASS CUTTING ROBOT". | R.P. Chowdary K.Kishor V.V.R.Seshagiri Rao S. Narasimha Kumar Ch.Indira Priyadarshini B.V.S.Rao Y., Nagini | 423405-001 | Published | 17-07-2024 | |
| 35 | Automobile cooling system utilizing shape memory alloys and advanced sensor technology | D. Ravi, P. Surendar Reddy, Dr. Ranjit J. Singh, Dr. Y. S. Kannan, Dr. L. Suresh Kumar, Dr. Rahul, Dr. P. V. R. Ravindra Reddy, Dr. P. Prabhakar Reddy. | 410318-001 | Filed | 12-03-2024 | |
| 36 | Food preparing Robot | Dr. B. Veera Jyothi, Dr. P. V. R. Ravindra Reddy, Dr. P. Prabhakar Reddy, Dr. N. Janardhan, Dr. L. Suresh Kumar, Dr. Y. S. Kannan. Dr. Rahul. | 407264-001 | Granted | 02-05-2024 | |
| 37 | Ecopower 3D Recycler | Dr. Rahul. P. Surendar Reddy, Dr. I. Vamsi, Dr. Hari Krishan Yadav, Ch. Sharath Reddy, Dr. Y. S. Kannan, D. Ravi, Dr. Ranjit J. Singh | 420184-001 | Filed | 15-06-2024 | |