Edition VI, Volume IV, 2022-23

Mechanical Engineering E-Magazine (LBRCE)

(TIER-I)

MECH PULSE

(APR-JUN 2023)

DEPARTMENT OF MECHANICAL ENGINEERING

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(Autonomous)

Accredited by NAAC & NBA under Tier - I

Approved by AICTE and Permanently Affiliated to JNTUK, Kakinada

Mechanical Engineering E-Magazine (LBRCE)

MESSAGE FROM HEAD OF THE DEPARTMENT

I am very happy to inform you that the department of mechanical engineering is bringing **MECH PULSE-an e-magazine** its edition VI and volume IV. The department of mechanical engineering is Accredited by **National Board of Accreditation (NBA) under Tier-I** and is started in the year 1998 with an intake of 60 students. At present the department is offering B.Tech Mechanical Engineering with an intake of 120 students and M.Tech – Thermal Engineering with an intake of 18 students. The department has thirteen state of art laboratories worth of 2.8 crores, with advanced computing facilities, software and research equipment. Advanced **Research Laboratories** in the area of **Cognitive Science, Material Testing, Tribology and Thermal Engineering** are available. Sophisticated **ANSYS Skill Development Centre** with 110 users of ANSYS 18.1 and **Dassault 3D Experience centre** (in association with APSSDC) is available. The department has 31 faculty members with 10 Doctoral degrees. Thirteen faculty are actively pursuing for their Ph.D in various universities and nine research scholars are working for their doctoral under the department faculty. The department faculty constantly upgrade their knowledge in the area of their domain by attending various Faculty Development Programs, workshops, seminars etc. The faculty are actively engaged in their research work and are active in publishing papers in journals and conferences.

VISIONOF THE DEPARTMENT

- To impart knowledge in Mechanical Engineering with global perspectives for the graduates to serve the society and industry.

MISSIONOF THE DEPARTMENT

- To enable the graduates technically sound with the state- of- the –art curriculum and innovative teaching methods
- To provide training programs that bridge the gap between academia and industry
- To create a conducive environment and facilities to improve overall personality development of the graduates
- To make the graduates aware of role and responsibilities of an engineer in society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To build a professional career and pursue higher studies with sound knowledge in Mathematics, Science and Mechanical Engineering.

PEO2: To inculcate strong ethical values and leadership qualities for graduates to become successful in multidisciplinary activities.

PEO3: To develop inquisitiveness towards good communication and lifelong learning.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: To apply the principles of thermal sciences to design and develop various thermal systems.

PSO2: To apply the principles of manufacturing technology, scientific management towards improvement of quality and optimization of engineering systems in the design, analysis and manufacturability of products.

PSO3: To apply the basic principles of mechanical engineering design for evaluation of performance of various systems relating to transmission of motion and power, conservation of energy and other process equipment.

RESEARCH PROJECT COMPLETED

S.No.	Name of the Faculty	Title of the Project	Funding Agency	Amount Sanctioned	Sanctioned Year
1.	Dr.N.Sunil Naik	Evaluation of engine parameters affecting the performance of enzymatic transesterification process using test fuel blends	DST/SERB/ EEQ	22,81,000	2019

GRANTS RECEIVED

S.No.	Name of the Faculty	Title of the Project	Funding Agency	Amount Sanctioned	Sanctioned Year
1.	Jonnala Subba Reddy	Robotics & Artificial Intilligence	AICTE ATAL	93,000	2022

RESEARCH PROJECTS APPLIED

S. No.	Name of the Faculty	Title of the Project	Funding Agency	Amount
1.	Dr. Murahari Kolli	Development of a novel low-cost energy efficient 3D printer gun for manufacturing of high-performance printed circuit boards (PCBs)	EEQ/2022/000684	37,20,288
2.	Dr. Murahari Kolli	Development of a low-cost energy efficient 3D printer for printed circuit boards	MSME	15,00,000
3.	A Nageswara Rao, Dr. Seelam Pichi Reddy	AI Integrated Pesticide Spraying Robot and Crop Management System	MSME	15,00,000

PUBLICATIONS BY FACULTY

A: Conferences Attended

- **Dr. Siva Sankara Babu Chinka**, **Dr. Pichi Reddy seelam**, Dr. Srinivasa Rao Putti, "Influence of Crack on Modal Parameters and assessment of Cracks in Fixed Beam using Natural Frequencies and Mode Shape Curvatures" in National Conference on Condition Monitoring (NCCM-2023) at Naval Science and Technological Laboratory (NSTL), DRDO, Ministry of Defence and Condition Monitoring Society of India (CMSI), Visakhapatnam from 27.04.2023 to 28.04.2023.
- **Murahari Kolli**, Kosaraju Satyanarayana, "Tensile and formability studies on ASI310 Austenite Stainless steel" in 4th International Conference On Design And Manufacturing Aspects For Sustainable Energy at GokarajuRangaraju Institute of Engineering & Technology, Hyderabadfrom 19.05.202 to 20.05.2023.
- **Murahari Kolli**, Kosaraju Satyanarayana, "Evalution of Tensile properties using Uni Axial Testing and Correletion with Microstracture of AA2014 Alloy" in 4th International Conference On Design And Manufacturing Aspects For Sustainable Energy at Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad from 19.05.2023 to 20.05.2023.
- **Mallikarjuna Rao Dandu**, **K. Sai Babu** , Nelakuditi Naresh Babu , **A. Dhanunjay Kumar**, **K. Venkateswara Reddy**, B. Sai Rama Krishna , **V. Dhana Raju**, " Experimental investigation on water cooler test rig with and without diffusers" in 4th International Conference On Design And Manufacturing Aspects For Sustainable Energy at Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad from 19-20 May 2023.
- **Sankararao V, P.Nageswara Rao, Ch.Siva Sankara Babu**, MedikonduNageswararao, "Enactment of Fibre Reinforced Hybrid Epoxy Composite for Passenger Car Bumper Beam" in4th International Conference On Design And Manufacturing Aspects For Sustainable Energy at Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad from 19-20 May 2023.
- **Murahari Kolli**, Kosaraju Satyanarayana, Tensile and formability studies on ASI310 Austenite Stainless steel, E3S Web of Conferences, eISSN: 2267-1242, June 2023.
- **Murahari Kolli**, Kosaraju Satyanarayana, Evalution of Tensile properties using Uni Axial Testing and Correletion with Microstracture of AA2014 Alloy, E3S Web of Conferences, eISSN: 2267-1242, June 2023.
- **Mallikarjuna Rao Dandu, K. Sai Babu** , Nelakuditi Naresh Babu**, A. Dhanunjay Kumar, K. Venkateswara Reddy**, B. Sai Rama Krishna**, V. Dhana Raju**, Experimental investigation on water cooler test rig with and without diffusers, E3S Web of Conferences, eISSN: 2267-1242, June 2023.
- **Sankararao V, P.Nageswara Rao, Ch.Siva Sankara Babu**, Medikondu Nageswararao, Enactment of Fibre Reinforced Hybrid Epoxy Composite for Passenger Car Bumper Beam, E3S Web of Conferences, eISSN: 2267-1242, June 2023.

B: Journal Publications

- Naga Venkata Sai Ram Y, Venkata Sai Kumar Madala, Sameer Kumar Devarakonda, Raqheeb Sadiq Mahaboob Ali Shaik, **Nageswara Rao Annamdasu**, Kondala Rao Dasari and Hasheer Shaik Mohammad "Application of Taguchi – PCA/GRA Method to Optimize the Wear Behaviour of Polyester / Carbon Fibre Composites" published in Revue des Composites et des Matériaux Avancés-Journal of Composite and Advanced Materials ISSN: 1169-7954 in May 2023.

BOOKS/CHAPTERS PUBLISHED

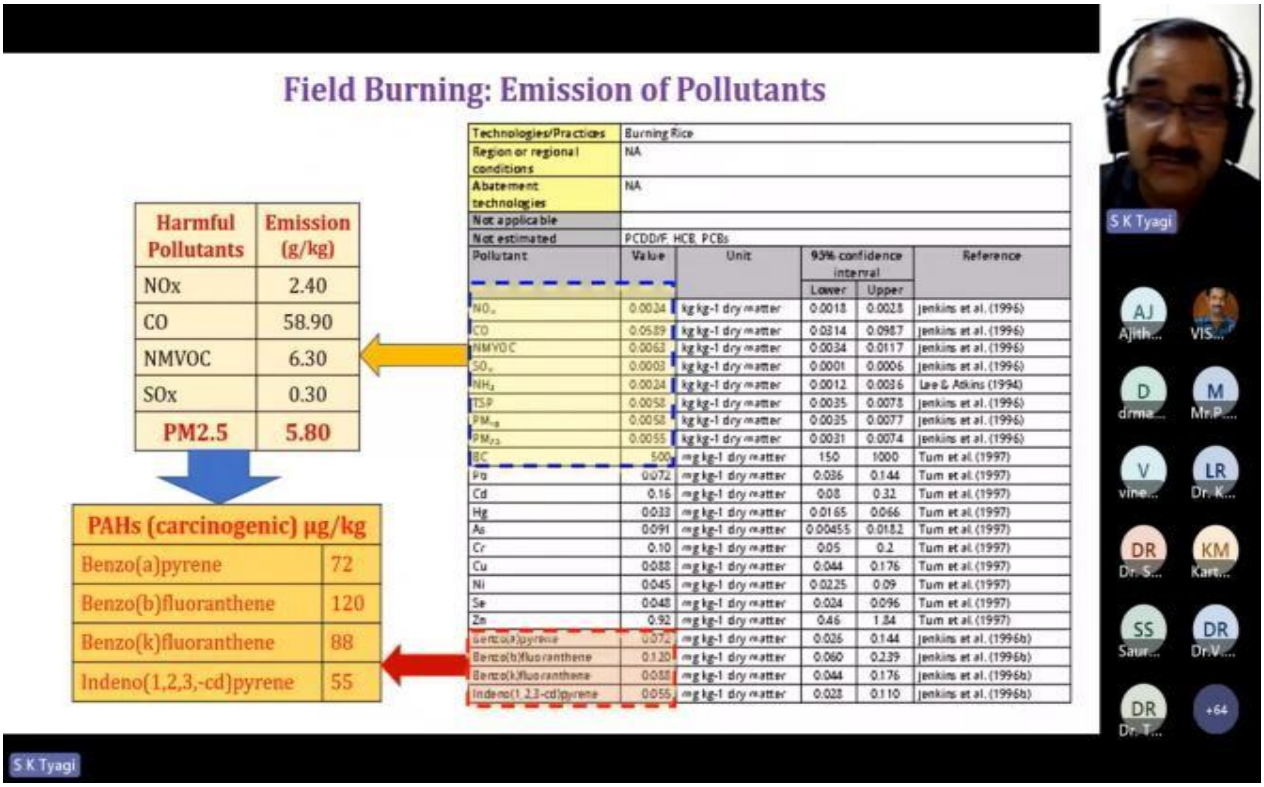
- **Seelam Pichi Reddy**, P V Chandrasekhara Rao, **A Nageswara Rao**, "Effect of ball milling on compacting characteristics of Al-10% Al2O3-fly ash composites" published inWaste Residue Composites, Walter de Gruyter GmbH & Co KG, Germany, 26 April 2023, ISBN No: 978-3-11-076652-3.
- Sai Naresh Dasari, **Murahari Kolli** "Performance of economical aluminum MMC reinforced with welding slag particles produced using solid-state liquid metallurgical stir casting" published in Waste Residue CompositesWalter de Gruyter GmbH & Co KG, Germany, 26 April 2023.
- **Murahari Kolli**, Krishna Kishore Mugada, N Jaya Prakash"Applications of green waste composite" Waste Residue CompositesWalter de Gruyter GmbH & Co KG, Germany, 26 April 2023, ISBN No: 9783110766523.
- Sai Naresh Dasari, **Sankararao Vinjavarapu**, Murali Mohan Cheepu "Effect of reinforcement particle size on LM-13-snail shell ash–SiC hybrid metal matrix composite" published in Waste Residue CompositesWalter de Gruyter GmbH & Co KG, Germany, 26 April 2023, ISBN No: 9783110766523.
- **Murahari Kolli**, Krishna Kishore Mugada, Adepu Kumar, Sunkara Gopi Rakesh Waste Residue Composites "Next-generation waste residue composite materials" published in Walter de Gruyter GmbH & Co KG, Germany Apr-2023, ISBN No:9783110766523.
- Sai Naresh Dasari, **Murahari Kolli** "Performance of economical aluminum MMC reinforced with welding slag particles produced using solid-state liquid metallurgical stir casting" published in Walter de Gruyter GmbH & Co KG, Germany Apr-2023, ISBN No: 9783110766523.

- **K.Sai Babu**, B. Sai Rama Krishna**, V. Dhana Raju** & N. Rama Krisna, Comparative analysis for performance characteristics of a compression ignition engine running on microalgae methyl ester and diesel blends with base engine and coated engine, "Advances in Clean Energy and Sustainability", ISSN No. 978-981-99-2278-9, May 2023.

EVENTS ORGANIZED BY THE DEPARTMENT

ONLINE FACULTY DEVELOPMENT PROGRAM

- The Department of Mechanical Engineering, organized a online faculty development programon **"Advancements in Mechanical Engineering"** through online from 19th June 2023 to 24th June 2023 by various faculty from reputed institutions. Dr.P.Vijay Kumar, Dr.V.Dhana Raju, Dr.N.Sunil Naik, K.V.Viswanadh, K.Lakshmi Prasad coordinated the event.

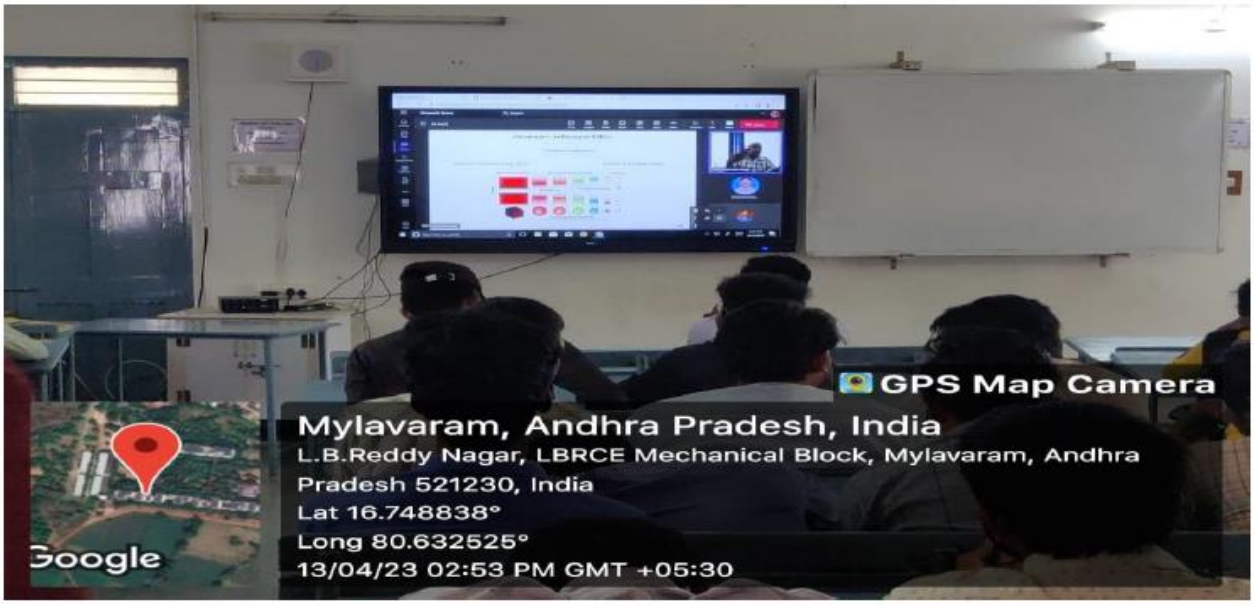


Lecture on emission of pollutants by Dr.S.K.Tyagi, IIT, Delhi

Presentation on poor combustion

GUEST LECTURES

- The Department of Mechanical Engineering organized a online guest lecture on "**Nano Materials For Energy And Environmental Application**" on 13/04/2023 by Dr. Narendra Singh, Assistant Professor, Department of Chemical Engineering, IIT Tirupati. Dr.P.Vijay Kumar, Mr. K.V.Viswanadh coordinated the event.



Nano materials and environmental Applications

Students participation in guest lecture

INDUSTRIAL VISITS

- The Dept. of Mechanical Engineering, organized a industrial visit toKusalava International Limited, at Adavinekkalam for one day on 06.05.2023,10 AM to 3 PM.

Kusalava Industry Blast Furnace Equipment

Group Photo of StudentsVisited Kusalava Industry

- The Dept. of Mechanical Engineering, organized a industrial visit to Industrial Visit to Kusalava International Limited, at Adavinekkalam, for one day on 21.04.2023, 10 AM to 4 PM.

Industrial visit kusalava International Limited

Group Photo of Industrial Visited Members at Kusalava

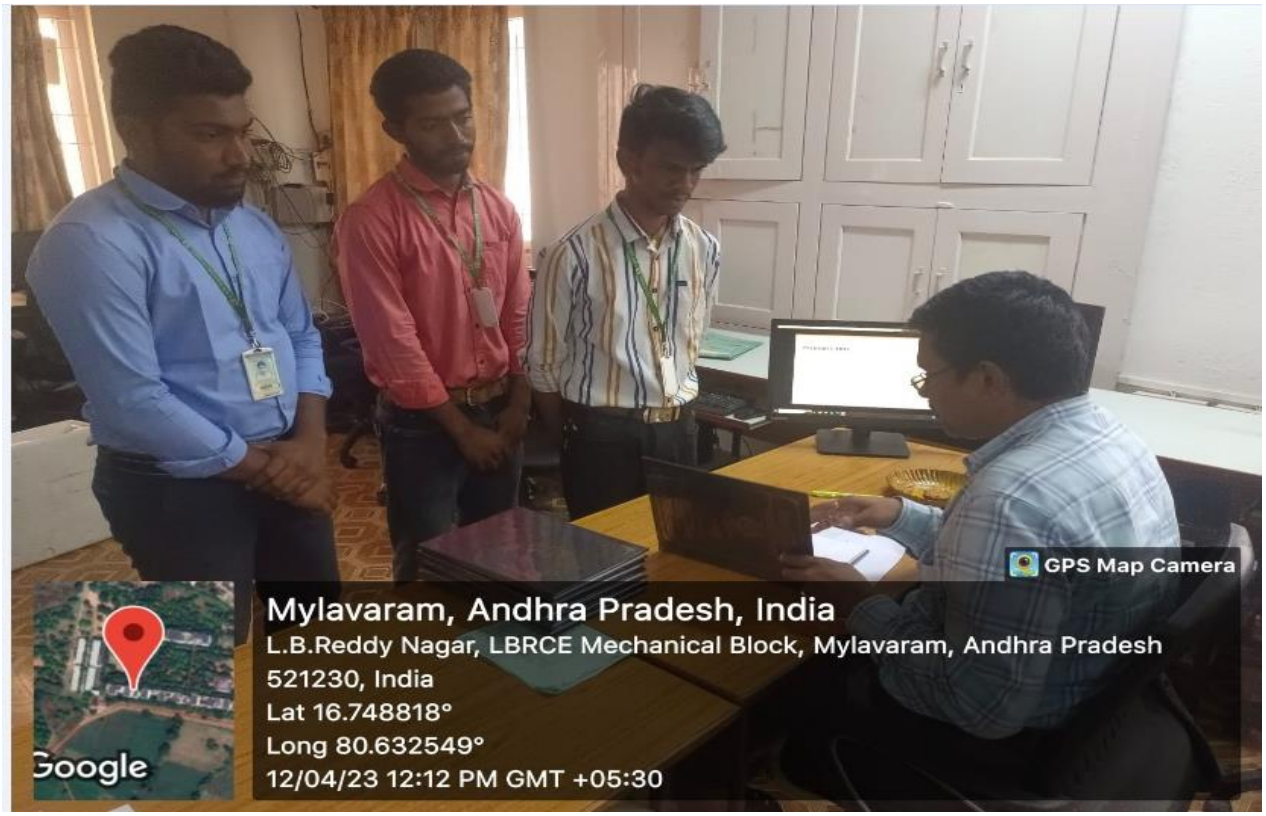
COURSERA ONLINE CERTIFICATIONS

Name of the Faculty	Name of the Course	Duration	Organizing Institute	Percentage
Ch.Siva Sankara Babu	Fundamentals of waves and vibrations	6 weeks	École Polytechnique	86

COLLABORATIONS / LINKAGES

Name of the Faculty	**Name of the Researcher**	**Name of the Institute**	**Duration**
Dr.K.Murahari	Dr. K. Krishna Kishore	SVNIT Surat	4 Years (upto June 2025)

- The Department of Mechanical Engineering conducted “Project External Viva-voce” for IV year students on 12.04.2023 at 10 AM to 4 PM.



Final Years Project External Viva-Voce

Final Years Project External Viva-Voce

SUMMARY OF COLLOQUIMS ORGANIZED

S. No	Name of The Faculty	Name of the Topic	Date
1.	V. Sankararao	Effect of reinforcement particle size on LM - 13-snail shell ash-SiC hybrid metal matrix composite	12.04.2023
2.	B. Udaya Lakshmi	Experimental Investigation of Air Conditioningby Using Thermoelectric Modules and Solar Power	28.04.2023
3.	D.Mallikharjuna Rao	Design And Fabrication of a Robotic Arm with Four Degree of Freedom	12.05.2023
4.	B.Kamala Priya	Experimental Investigation of Floating Solar trackingSystem	25.05.2023
5.	K. Venkateswara Reddy	Process Design And Optimization For The Milling Cutter For Milling Operation Of Tungsten (Th1) Carbide	14.06.2023
6.	K. Sai Babu	Performance And Emission Characteristics of Diesel Engine FueledWith Rice Bran Oil With Fuel Additive As Antioxidant	23.06.2023

FDP's/STTP's/STC's/WORKSHOP's ATTENDED BY FACULTY

1. A.Dhanunjay Kumar,has participated in a faculty development programon Cloud Computing,organized by IIT MadrasfromJAN-APRIL 23.
2. Dr. K. DilipKumar, has participated in a faculty development program on "Advancements in Mechanical Engineering" organized by Lakireddy Bali Reddy College of Engineering Mylavaram for five days from 19/06/23 to 24/06/23.
3. K. V. Viswanath, has participated in a faculty development program on "Advancements in Mechanical Engineering" organized by Lakireddy Bali Reddy College of Engineering Mylavaram for five days from 19/06/23 to 24/06/23.
4. B.Kamala Priya, has participated in a faculty development program on "Advancements in Mechanical Engineering" organized by Lakieddy Bali Reddy College of Engineering Mylavaram, for 5 days from 19/06/23 to 24/06/23.
5. A. Pratyush, has participated in a faculty development program on "Thermal and Renewable Energy Technologies(ATRET-2022)" organized by SRIT, for 5 days from 19/06/23 to 24/06/23.
6. Mr. Oliva, has participated in a faculty development program on "Advancements in Mechanical Engineering" organized by Lakireddy Bali Reddy College of Engineering Mylavaram, for 5 days from 19/06/23 to 24/06/23.

7. A.Nageswara Rao, attended workshop "Advanced Driving Assistance, Monitoring Systems with Hands-on Training" at NIT Tiruchirappalli, for 05-06-23 to 09-06-23.

PATENTS PUBLISHED

Name of the Inventors	Patent Number	Title of the Patent	Agency	Date of Published
Dr.Venkateswarlu Reddy Siripireddy M. Anand Dr. K. Anandan Dr. Avinash Gudimetla **Seelam Rami Reddy** Dr. Sanjit Kumar Dash	202341020328 A	A Smart and Collapsible Space-Saving Head Guard for Riders	IPR India	07.04.2023
Dr.Yogesh Pal Keerti Patil Ravindra Kumar Yadav Subasish Mohapatra Subhadarshini Mohanty **Dr. Siva Sankara Babu Chinka** Sindu Devi J Prof. Dr. E. Daniel Francis Dr. Deepak Dalal Dr. Mamta Sharma Dr.Animesh Kumar Sharma Dr.Pasupuleti Subrahmanya Ranjit	202311025408	Predicting the industrial maintenance based on iot and ant colony optimization algorithm	IPR India	19.05.2023
Sivasubramanian palanisamy Santhosh kumar D Kumaran Prema Kumar **SudherkumarBattula** Dr. P.C Krishnamachary Dr.P.Suresh Kumar M.Sudhakar	202321032319 A	Ultra light weight natural fiber composites for Aerospace applications	IPR India	16.06.2023
Dr. Satyanarayana Kosaraju **Dr.MurahariKolli** K.Raj Kiran **Abdul Chan Basha**	2023410400 A	An apparatus for the Friction Stir process	IPR	30.06.2023

NPTEL ONLINE CERTIFICATIONS

- The following are the details of faculty completed the NPTEL online courses during JAN-APR 2022-23.
- **Dr. M B S Sreekara Reddy** completed NPTEL certification on "Problem Solving Through Programming In C" with Elite+ Gold & got top 1%.

S. No	Name of the Faculty	Name of the Course	% of Marks	Grade
1.	Dr. M B S Sreekara Reddy	Problem Solving Through Programming In C	90	Elite+gold
2.	Dr.SeelamPichi Reddy	NBA Accreditation and Teaching and learning in Engineering (NATE)	73	Elite
3.	Dr.P Ravindra Kumar	Environmental Quality Monitoring & Analysis	70	Elite
4.	Dr. Siva Sankara Babu Chinka	Machinery Fault Diagnosis And Signal Processing	62	Elite
5.	Dhanunjay Kumar Ammisetti	Cloud Computing	60	Elite
6.	Dr.P Ravindra Kumar	Heat Transfer	55	Successfully completed
7.	A Pratyush	Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems	45	Successfully completed

STUDENT ACHIEVEMENTS

TOPPERS FOR A.Y. 2022-23

Brach Topper:

Batch	Name of the Student	Roll No.	GPA	Position
2019-23	Vipparla Maneesh	20765A0315	9.41	I

Sem wise Toppers:

S. No.	Name of the Student	Roll No.	Semesters	GPA	Position
1.	Tadpu Venkata Gopi	22761A0335	I & II	7.77	I
2.	Marri Harikrishna	22761A0321	I & II	7.75	II
3.	Balivada Ganesh	22765A0332	III & IV	9.30	I

4.	Bommothu Ajay Kumar	22765A0306	III & IV	9.07	II
5.	Devarakonda Vamsi	21765A0323	V & VI	9.09	I
6.	Kalasani Upendra	20761A0362	V & VI	9.05	II
7.	Ummadisetti Tejaswi	20761A0398	V & VI	9.05	II
8.	Shaik Hameed	20765A0326	VII & VIII	9.62	I
9.	Vipparla Maneesh	20765A0315	VII & VIII	9.56	II

STUDENT CERTIFICATIONS (NPTEL)

S.No	Name of the Student	Roll No	Name of the Course	Grade
1.	Akuthota Gopi chand	20761A0301	The Joy of Computing using Python	Elite
2.	Battula Siva Sankar	20761A0305	The Joy of Computing using Python	Elite+Silver
3.	Revanth Kumar Bazaru	20761A0306	The Joy of Computing using Python	Successfully completed
4.	Chalamala Mohan	20761A0308	The Joy of Computing using Python	Elite
5.	Dasari Akash	20761A0311	The Joy of Computing using Python	Elite
6.	Dodda Venkatesh	20761A0314	The Joy of Computing using Python	Elite
7.	Metlapalli Jagadeesh Vara Prasad	20761A0330	The Joy of Computing using Python	Elite
8.	MuppiriNithin Srinivas	20761A0331	The Joy of Computing using Python	Elite
9.	Mohan Vamsi Narra	20761A0334	The Joy of Computing using Python	Elite+Silver
10.	Shanmukh Patnala	20761A0337	The Joy of Computing using Python	Elite
11.	Vajrapu Madhu	20761A0345	The Joy of Computing using Python	Elite
12.	VoonaPrasannasai	20761A0347	The Joy of Computing using Python	Elite
13.	A Geetheswar Reddy	20761A0348	The Joy of Computing using Python	Elite
14.	Dokku Siri Venkata Naga Gopi	20761A0358	The Joy of Computing using Python	Elite+Silver
15.	HindusthaniKhajaShareef	20761A0360	The Joy of Computing using Python	Elite+Silver
16.	Kalasani Naveen Kumar	20761A0361	The Joy of Computing using Python	Elite

17.	Kalasani Upendra	20761A0362	Data Structure And Algorithms Using Java	Successfully completed
18.	Maddireddy Rajasekhar Reddy	20761A0365	Introduction to Machine Learning	Successfully completed
19.	P Sonu Raju	20761A0380	The Joy of Computing using Python	Elite
20.	PonnaLikhith Kumar	20761A0382	The Joy of Computing using Python	Elite+Silver
21.	RedrouthuVenkanna	20761A0384	The Joy of Computing using Python	Elite
22.	Seelam Jagadhish Reddy	20761A0385	The Joy of Computing using Python	Elite
23.	Tungala Mohanranga srinivas	20761A0397	Programming In Java	Elite
24.	Ummadisetti Tejaswi	20761A0398	The Joy of Computing using Python	Elite
25.	Alla Sreethi Varalakshmi	21765A0301	The Joy of Computing using Python	Elite
26.	Appikatla Jaswanth Ram	21765A0302	The Joy of Computing using Python	Elite+Silver
27.	Buddarapu Bhargav	21765A0304	The Joy of Computing using Python	Elite+Silver
28.	Gampa Siva Prasad	21765A0306	The Joy of Computing using Python	Elite+Silver
29.	**Guti Umaram**	**21765A0308**	**Rapid Manufacturing**	**Elite+Silver**
30.	Pragada Eswar	21765A0310	The Joy of Computing using Python	Elite
31.	Timmasarti Raj Kumar	21765A0316	The Joy of Computing using Python	Successfully completed
32.	Vempati Dinesh Kumar	21765A0318	The Joy of Computing using Python	Elite
33.	Vempati Dinesh Kumar	21765A0318	Introduction to Engineering Seismology	Successfully completed
34.	Yaragani Charan Deep	21765A0319	The Joy of Computing using Python	Elite+Silver
35.	Adla Raju	21765A0320	The Joy of Computing using Python	Elite
36.	Devarakonda Vamsi	21765A0323	The Joy of Computing using Python	Elite
37.	Gurugubelli Jitendra	21765A0324	The Joy of Computing using Python	Elite
38.	Ketham Gopikrishna	21765A0325	The Joy of Computing using Python	Elite

39.	L Pradeep	21765A0326	The Joy of Computing using Python	Elite
40.	MugadaVara Prasad	21765A0328	The Joy of Computing using Python	Elite
41.	Nandikanuma Vijay Kalyan	21765A0329	The Joy of Computing using Python	Elite
42.	Prathipati Rajkumar	21765A0332	The Joy of Computing using Python	Elite
43.	Sappa DurgaRao	21765A0333	Problem Solving Through Programming In C	Elite
44.	Sappa DurgaRao	21765A0333	The Joy of Computing using Python	Elite + Silver
45.	Shaik Mohammed Sadiq	21765A0334	The Joy of Computing using Python	Elite

STUDENTS PROJECTS




Title of the Project: DESIGN AND FABRICATION OF SEMI-AUTOMATIC FIRE EXTINGUISHER

Project Members:

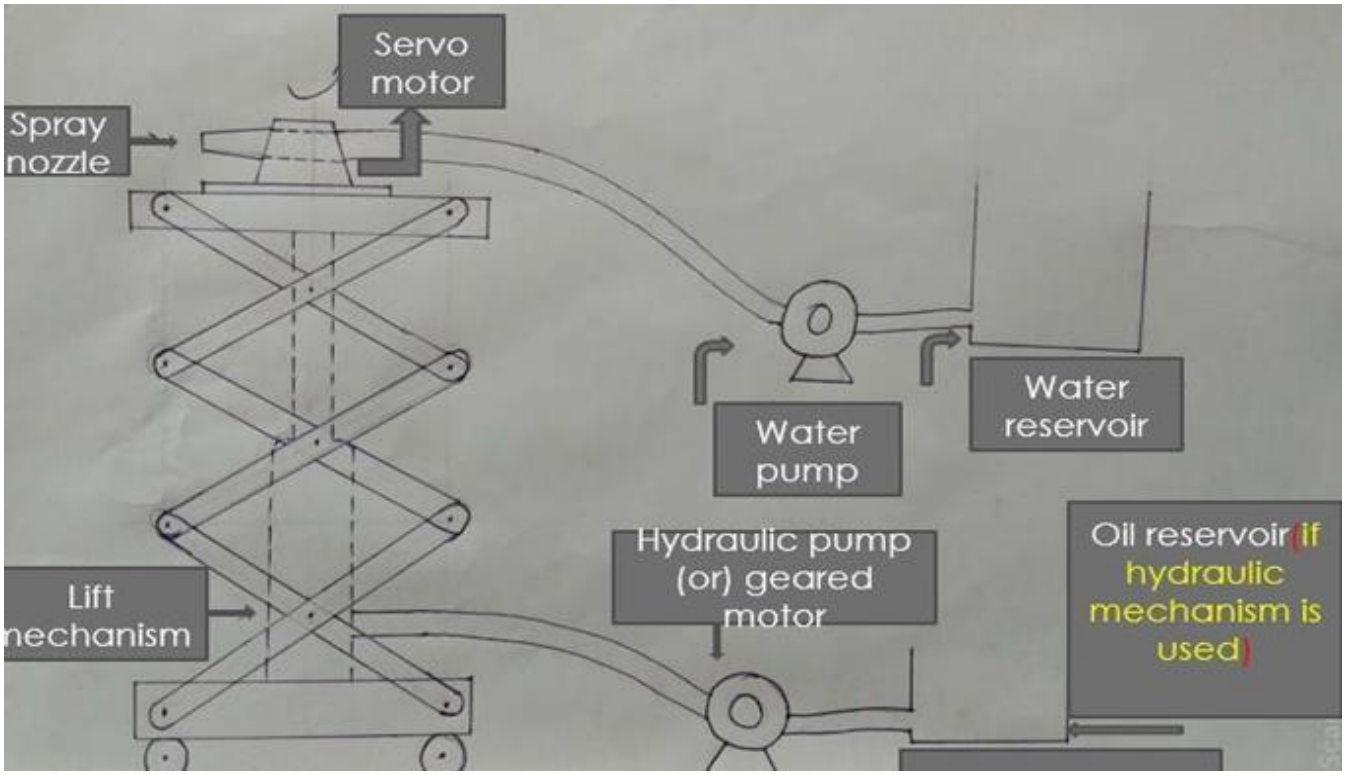
SK. HAMEED	20765A0326
R. GURU BABU	19761A0382
K. SIVA SHANKAR	18765A0323
G. HEMANTH	19761A0359

Project Supervisor: Mr. V. SANKARA RAO, M. Tech, (Ph.D), Sr. Asst. Professor

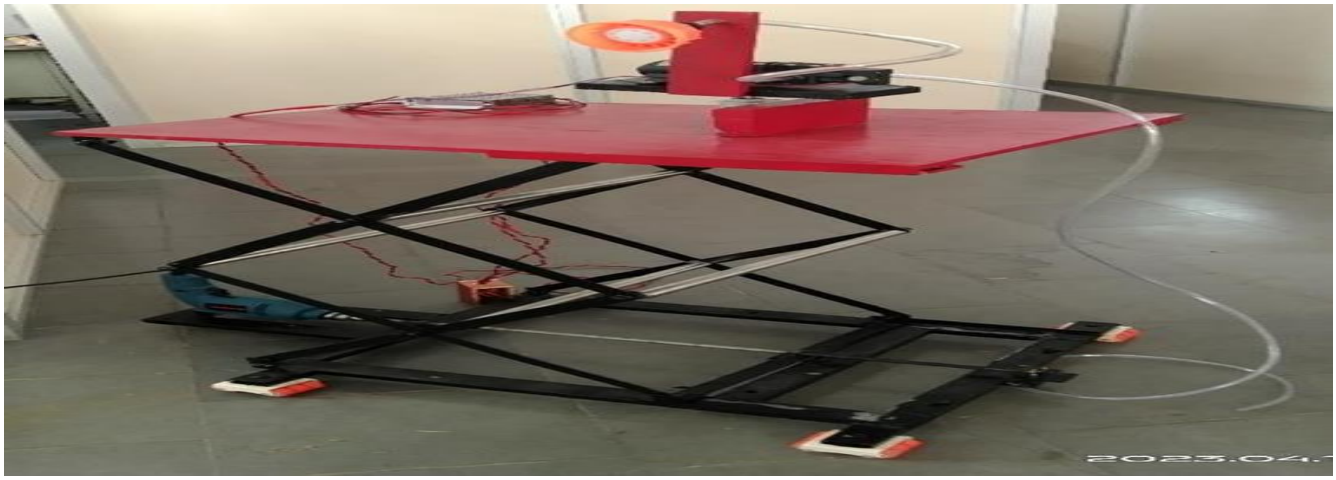
Abstract:

Fire Extinguishing has been unsafe for human beings since the inception. Firefighting is an important and hazardous job. A fire fighter can extinguish fire quickly, preventing damage and reducing losses. The purpose of this thesis is to establish a system that can detect fire and extinguish it in the shortest time. In this project we fabricate a semi-automatic fire extinguisher and lifter with the help of electric power. Till date we have fire hydrant systems that are manually operated i.e., firemen should move the water pipe to the fire location. The water outlet itself can reach the fire location. Firemen should operate this equipment from the observation point and the extinguisher moves and rotates accordingly. This project reduces the risk of health issues like heart attack, cancer, Hepatitis B and C, Chronic respiratory disease, stress, etc. facing by firemen. This project is also used in agricultural applications by spraying pesticides. To reduce the cost of a normal fire fighting vehicle, reduce labour and labour cost we fabricate this semi-automatic fire extinguisher. Keywords: fire extinguisher, nozzle, servomotor, water pump.

Rough layout of the project



Construction of base



Final fabricated protype



TITLE OF THE PROJECT: DESIGN AND DEVELOPMENT OF POST PROCESSING TOOL FOR WIRE ARCADDITIVE MANUFACTURING (WAAM) 3D COMPONENT

PROJECT MEMBERS:

ABDUL CHAN BASHA 20765A0316
ABDUL SAMEER FAISAL 19761A0348
VADAPALLI PAVAN KALYAN 19761A0390

PROJECT SUPERVISOR: Dr. K. Murahari

ABSTRACT:

Additive manufacturing is the process of converting a 3D modelling file to 3D components with respective geometry to fabricate the component layer-by-layer manufacturing process. The process helps to create numerous types and a variety of products and can be applicable to producing materials using metals, ceramics, polymers, composites etc. It is an alternative method to reduce the manufacturing time and cost. One of the negative aspects of the AM is degrading the surface finish than the other conventional manufacturing processes. To enhance the surface roughness and surface properties are the major roles in any manufacturing components it helps to create a good surface finish, fits and greater tolerances etc. So, post-processing techniques are required for the finishing of AM components. These technologies which are emerging as the post-processing techniques for efficiency of finishing for final product are Electrical, Chemical, Thermal, Hybrid technologies. Then some of the authors are concentrating on the post processing methods in conventional routes. A scarce amount of work was done on the hybrid technology in AM. The objectives of this work must summarise post-processing methodologies utilized in AM. And design and fabrication of an indigenous setup for post processing of 3D printed metallic components with respect to geometry. As compared to other processing techniques it is low cost and easily operated. One of the advantages of developed techniques is suitable for conventional and unconventional machining methods.

Mild Steel Plate

Fabrication of a tool in a CNC with H13 Material

Mounting for the Specimen for testing the hardness and the microstructure



Title of the Project: EXPERIMENTAL INVESTIGATION OF AIR CONDITIONING BY USING THERMOELECTRIC MODULES AND SOLAR POWER

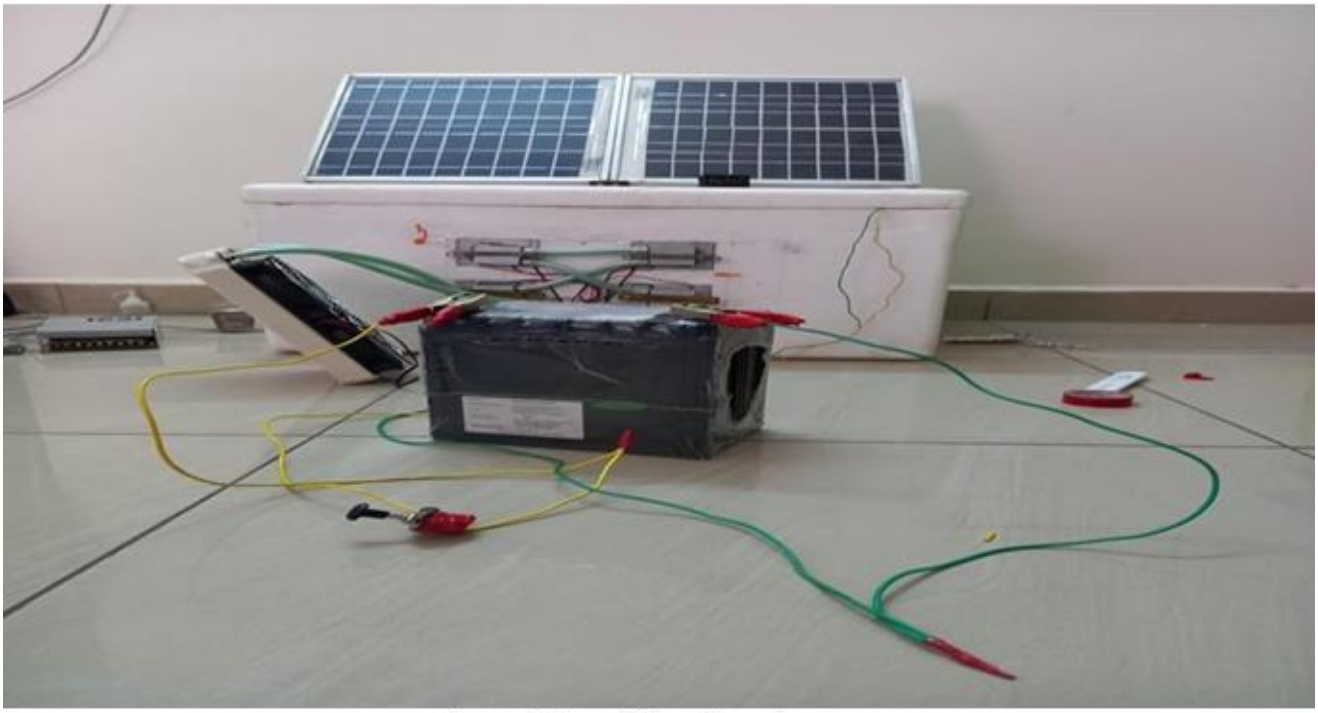
Project Members:

K.TRINADH	20765A0319
O.SRINIVASA RAO	19761A0375
M.RAKESH	19761A0366

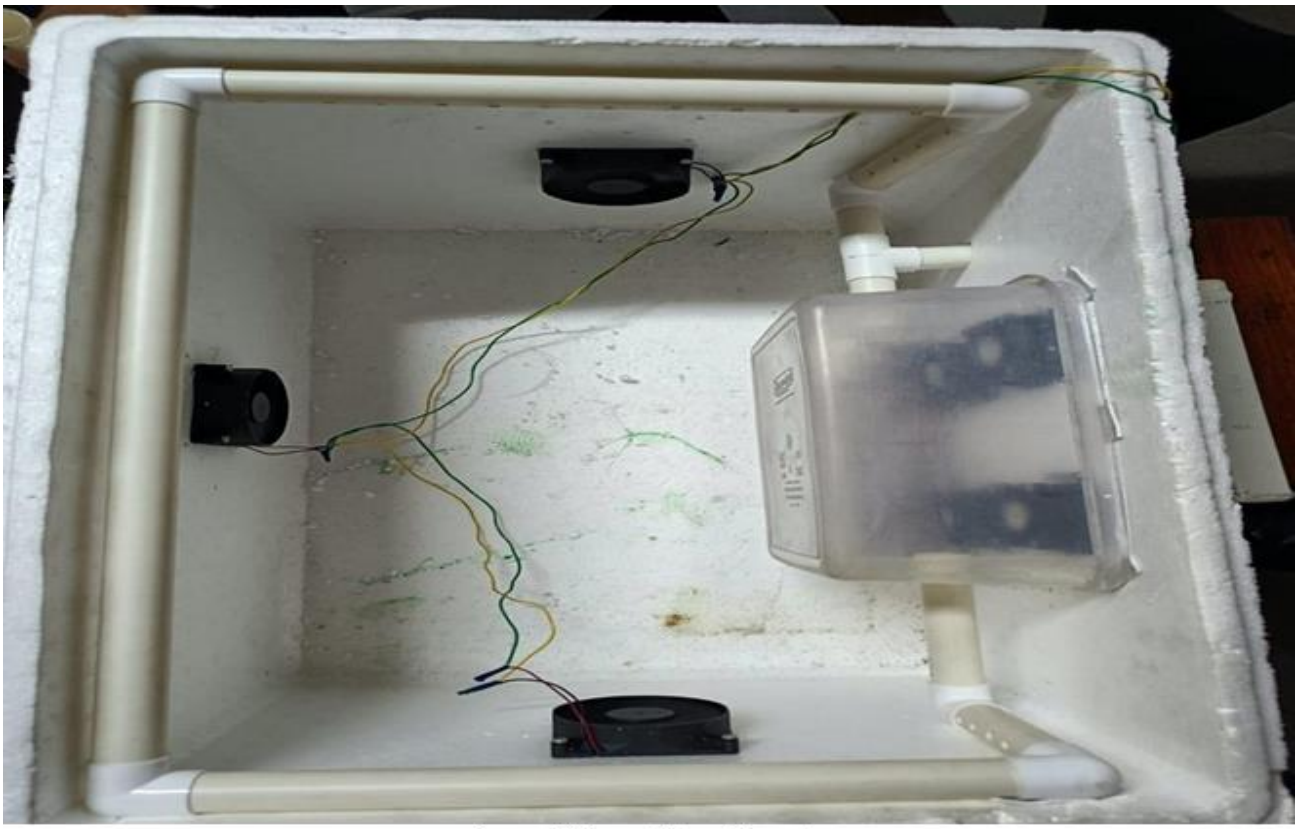
Project Supervisor: Mrs.B.UDAYA LAKSHMI , Assistant Professor

Abstract:

In this we are implementing an environmental friendly air conditioning system. This setupdoesn't deplete the earths limited fossil fuel reserves nor doesn't harm the environment either by depleting the ozone or by contributing to global warming through the emission of greenhouse gases. The electrical energy required for conditioning is supplied from solar panel. In the recent years we have seen many problems like energy crisis and environmental degradation due to increase in CO2 emissions and ozone layer depletion has become primarily concern to both developed and developing countries. Solar energy based conditioning system is cost effective, clean and environment friendly system. This setup doesn't require any refrigerants and mechanical devices like condenser, compressor, evaporator for its operation. As trend changes power consumption also increased to reduce this we are using renewable energy sources. We can produce conditioning by using refrigerants like CFC's, HCFC's, Freon, Ammonia which gives a maximum efficiency but the main disadvantage is that they cause the global warming and ozone depletion. In this project we produce simple and eco-friendly conditioning by using Peltier module and solar energy as power input.



Outer View of the Chamber



Inner View of the Chamber



Title of the Project: INVESTIGATION OF TRIBOLOGICAL CHARACTERISTICS OF MAGNESIUM ALLOY COMPOSITES AND PREDICTION MODELDEVELOPMENT USING AI TECHNIQUES

Project Members:

L. Vignesh Kumar	20765A0322
N. Naga Charan	20765A0324
P. Sasi Kumar Reddy	19761A0377

Project Supervisor: A. Dhanunjay Kumar, Sr. Asst. Professor

Abstract:

The demand for lightweight and high strength materials for structural applications is increasing day by day. Especially the transportation industries like automotive and aerospace are concentrating more on weight reduction, low emissions and safer vehicles. Reduction in weight of component of part can be obtained by using new structural design along with use of light weight metals and alloys like aluminum, magnesium and titanium. Owing to the low elastic modulus, limited strength and low resistance to corrosion, magnesium cannot be used in its monolithic state. Magnesium alloys have attractive properties but their employability in many high performance applications is limited due to their limited strength, poor tribological and corrosion properties. To overcome these limitations, reinforcements are added to the magnesium alloys to prepare magnesium composites. In our project work, Graphene and SiC are going use as reinforcements with AZ31 matrix. We are going to investigate the tribological behavior of the composite and the development of its predictive model using AI techniques.

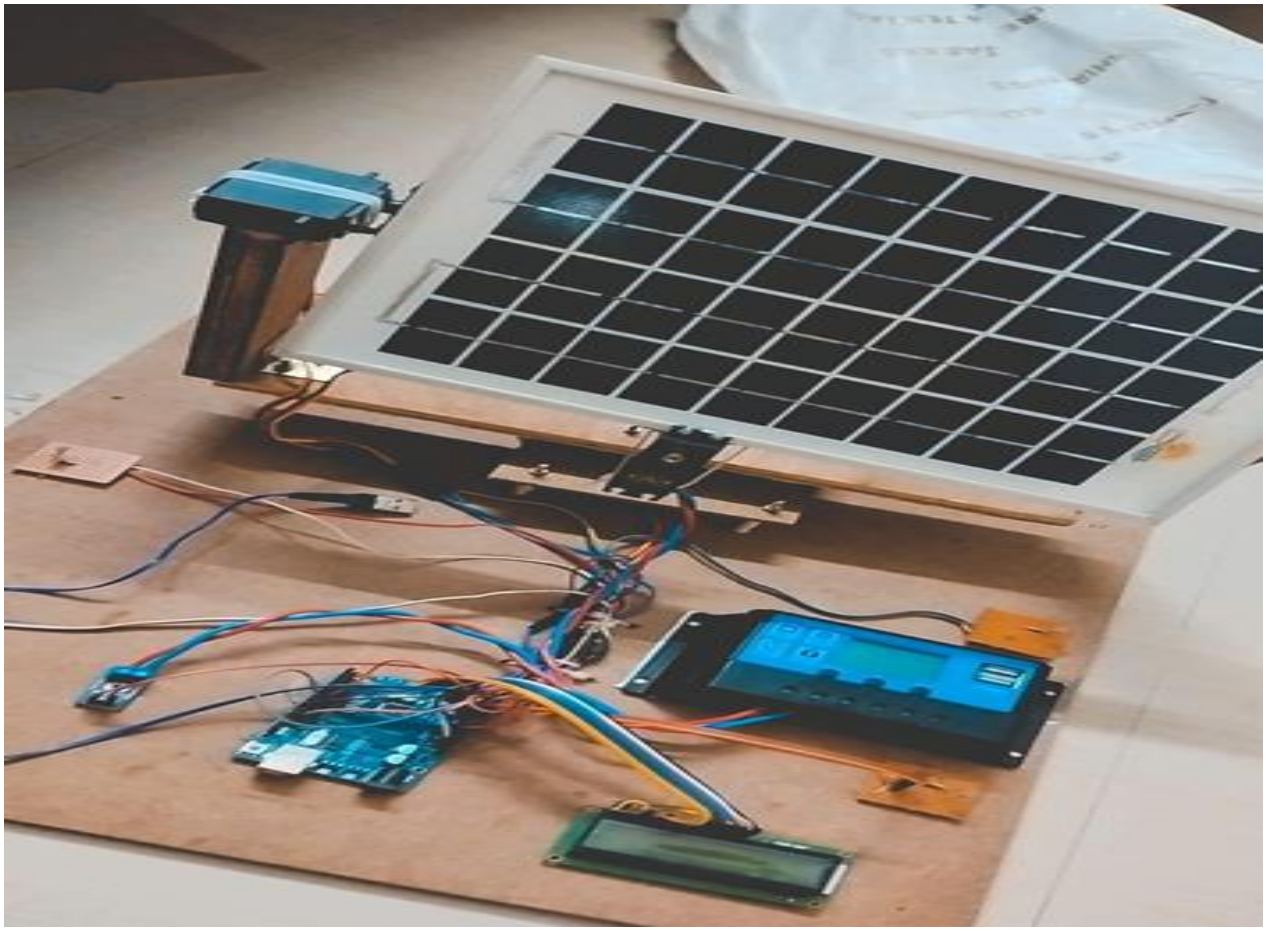
Fabrication work

The specimen dimension is ASTME8M-89b

The specimen obtained after the test

FABRICATION OF DUAL-AXIS SOLAR TRACKING SYSTEM WITH AUTOMATIC CLEANING MECHANISM

The sun provides more than enough energy to meet the whole world's energy needs, and unlike fossil fuels, it will not run out anytime soon. Solar energy is a clean source. When you generate power with solar panels, no greenhouse gas emissions are put into the atmosphere.Since sun moves from east to west, it is not possible for the fixed solar panel to create ideal energy or fixed rate of energy. Our project resolves this issue by giving course of movement or motion to the solar panel to follow the sun and increases the efficiency of the solar panel which results in production of more solar energy than the ideal energy production. It incorporates a solar panel with four LDR sensors, coupled with two stepper motors and Arduino uno microcontroller to track the path of sun. The code for the uno is developed utilizing c programming language and focused onto Arduino uno board using Arduino IDE (integrated development environment). With this setup the main objective of our project is achieved which is to extract more sun radiation and increase the efficiency with the help of dual axis solar tracking system.



Experimental setup

STUDENTS QUALIFIED IN GATE/CAT/IELTS/GRE/TOEFL, etc

S. No	Roll. No	Name of Student	Name of qualified Examination	Score	Reg. No
1.	18761A03C8	J. Chandra Sai Venkata Aravind	TOEFL	95	3654 2062 2637 6017
2.	17761A03B4	Bathula Venkata Naresh Kumar	TOEFL	90	2794 3022 3817 4912
3.	17761A03B4	Bathula Venkata Naresh Kumar	GRE	316	1928753
4.	15761A0399	Paidimarla Pavan Kalyan Reddy	IELTS	7	U5955769
5.	17761A0398	Shiva P. Pillagolla	GRE	328	0063143
6.	18761A0386	Mendu Kumar			

		Raja	Duolingo	120	
7.	15765A0307	RamuGoli	GRE	321	1860788
8.	18761A0318	Kaitepalli Vishnu Vardhan	TOEFL	92	1155 2072 2657 7576
9.	18761A0318	Kaitepalli Vishnu Vardhan	GRE	320	1098614
10.	18761A0354	Sai ManikantaYadla	GRE	323	0193673
11.	18761A0354	Sai ManikantaYadla	TOEFL	103	7867 8122 2800 0191
12.	19765A0322	Prudhvi Raj Dasari	GRE	313	0466403
13.	20765A0344	Venkata Vamsi Parvatha	GRE	331	0026872
14.	20764A0344	Venkata Vamsi Parvatha	TOEFL	97	9326 4122 2800 5122
15.	19761A0387	Sai Pavan Tata	GRE	320	1591744
16.	19761A0389	Purna Satya T. Sai Tarun	GRE	317	1591703
17.	19761A0371	Charan Manikanta N. Sai Krishna	GRE	320	1591734
18.	20765A0316	Abdul Chan Basha	GRE	323	1390680
19.	20765A0316	Abdul Chan Basha	Duolingo	105	
20.	20765A0323	Bhanu Sankar Mangamuri	GRE	319	1596507
21.	17761A0394	Pachigolla Vasudeva Gupta	TOEFL	94	3991 7082 2670 1134
22.	17761A0394	Pachigolla Vasudeva Gupta	GRE	319	1345311
23.	17761A0392	Avinash Nallamotu	GRE	313	1212153
24.	17761A0319	JakkireddyGurava Reddy	TOEFL	91	8268 2082 2660 4111
25.	17761A03A8	Ravindra Reddy Vemireddy	GRE	325	1228611
26.	18761A03C3	Pothuri Gnana Amitesh	IELTS	7.5	V3143233
27.	18761A03C3	Pothuri Gnana Amitesh	GRE	324	0260180
28.	18761A03D9	Charan Kumar Morempudi	GRE	321	0267114
29.	18761A03D9	Charan Kumar Morempudi	Duolingo	110	
30.	18761A0378	MadathalaVenkateswarlureddy	SBI	-	2150170969

31.	18761A03E8	Pathakamudi Sai Krishna	IELTS	6.5	V3153057
32.	18761A0367	Galanki Vamsi	Junior Engineer	-	8008201408
33.	18761A0367	Galanki Vamsi	IBPS	-	2160127402
34.	18761A0364	Darla Kishore	TOEFL	82	1642 9072 2658 1282
35.	18761A0331	Mareedu Pavan Kumar	TOEFL	94	9581 7072 2646 8965
36.	18761A03C7	Jillepalli Mahesh Babu	Duolingo	115	
37.	19765A0329	Ramisetty Naveen	Duolingo	115	
38.	17761A03B4	Bathula Venkata Naresh Kumar	TOEFL	90	2794 3022 3817 4912
39.	17761A03B4	Bathula Venkata Naresh Kumar	GRE	316	1928753
40.	17765A0316	Kokkera Venkatesh	Duolingo	130	
41.	19761A0384	Venkata Arvind Reddy Seelam	GRE	328	2132728
42.	18761A0398	Rudroju Charan Mohanachary	TOEFL	97	8743 6032 3827 9852
43.	18761A0384	Matta Venkata Sai Krishna Reddy	TOEFL	91	5740 2032 3826 8405
44.	19761A0352	Bora Vamsi	GRE	-	1966265
45.	19765A0352	Bora Vamsi	TOEFL	82	2868 6072 3867 5995
46.	17761A0364	Chimata Naresh	TOEFL	89	5484 7092 2685 3284
47.	20765A0315	Vipparla Maneesh	IELTS	07	544278
48.	20765A0315	Vipparla Maneesh	GRE	322	0729671
49.	19761A0385	Shaik Irfan	TOEFL	83	6044 3082 3877 2700
50.	19761A0385	Shaik Irfan	GRE	318	2197163
51.	19761A0307	Hema Sai Cherukuri	IELTS	06	V3161273
52.	19761A0307	Hema Sai Cherukuri	GRE	319	1906002
53.	17761A0368	Sri Krishna Murali Danduboyina	GRE	318	1962026
54.	17761A0368	Sri Krishna Danduboyina	Dulingo	125	
55.	17761A03D4	Jetta Mukul Sai	Dulingo	105	

56.	18761A0391	Nagiri Soma Subramanyam	TOEFL	84	6475 6112 1545 8469
57.	18761A0391	Nagiri Soma Subramanyam	GRE	323	0262110
58.	14761A03A6	Rama Koti Reddy Regalla	PTE	67	PTE002427544
59.	14761A03A6	Rama Koti Reddy Regalla	Dulingo	130	
60.	14761A03A6	Rama Koti Reddy Regalla	GRE	316	1249178
61.		Sarepalli Ben Jagadeesh	Dulingo	125	
62.		Krishnamsetti Madhulika	IELTS	6.5	223037
63.		Krishnmsetti Madhulika	GRE	321	2088192
64.	18761A0309	Chittela Gowtham Krishna	Duolingo	125	
65.	18761A0309	Chittela Gowtham Krishna	GRE	310	1569134
66.	20765A0328	Vemula Revanth	IELTS	7.0	Z6962651
67.	18761A03G2		Dulingo	130	
68.	19761A0344	Sai ManikantaVarikuti	GRE	317	2162521
69.	19761A0344	Sai ManikantaVarikuti	Duolingo	115	Certs.duolingo.com/e0ac16a1a2fb5408bdb1f8eb668e68e683d
70.	19761A03D7	Tokala Pavan Kumar	Duolingo	110	
71.	19761A03D7	Tokala Pavan Kumar	GRE	321	1704546
72.	17761A0398	Pillagolla Shiva Pranav	IELTS	6.5	073340
73.	17761A0398	Pillagolla Shiva Pranav	GRE	328	0063143
74.	17761A03D4	Jetta Mukul Sai	Duolingo	105	
75.	19761A0370	Naguluri Charan manikanta Sai Krishna	Duolingo	115	
76.	19761A0370	Naguluri Charan Manikanta Sai Krishna	GRE	320	1591734
77.	16761A0362	Sandeep Chekuri	GRE	321	1845224
78.	16761A0362	Sandeep Cherkuri	TOEFL	87	3895 2112 2784 4530

79.	20761A0306	Revanth Kumar Bazaru	GRE	317	1700586
80.	20761A0306	Revanth Kumar Bazaru	TOEFL	94	7274 4102 3908 6778
81.	20761A0302	Mani Dinesh Anam	TOEFL	92	5065 5102 3910 0923
82.	20761A0302	Mani Dinesh Anam	GRE	316	1700609

STUDENTS JOINED IN HIGHER STUDIES

S.No	Roll. No	Name of the student	Name of the institute joined	Name of the program admitted	Year of admission in higher studies program
1.	18765A0308	Kollu Lalith Dattu	Nyc (Tandon School Of Engineering)	MS	2023
2.	18761A0331	Pavan Kumar Mareedu	Wne (Western New England University)	MS	2023
3.	18761A03D9	Charan Kumar Morempudi	Asu (Arizona State University)	MS	2023
4.	18761A0382	Venkata Krishna Reddy Marella	Sheffield Hallam University	MS	2023
5.	18761A0318	Vishnu Vardhan Kaitepalli	University Of North Texas	MS	2023
6.	20765A0316	Abdul Chan Basha	Missouri University Of Science And Technology	MS	2023
7.	20765A0323	Mangamuri Bhanu Sankar	Missouri University Of Science And Technology	MS	2023
8.	20765A0315	Vipparla Maneesh	McMaster University	MS	2023
9.	16761A0359	Naveen Kumar Athi	Rowman University	MS	July 2023
10.	20765A0305	Praveen Kilaru	Arizona University	MS	Aug 2023
11.	20765A0344	Venkata Vamsi Parvatha	University of Houston	MS	Aug 2023
12.	20765A0339	Harsha Krishna Malliseety	University of Texas at Arlington	MS	Aug 2023
13.	17765A0316	Venkatesh Kokkera	University of New Haven	MS	Aug 2023
14.	16761A03B1	Hariprasad Reddy Yalamareddy	Cleveland State University	MS	April 2023

15.	18761A03C7	Mahesh Babu Jillepalli	PACE University	MS	2023
16.	17761A0347	AlekhyaSiriyala	Hochschule Harz (Harz University of Applied Science)	MS	2023
17.	17761A0319	Gurava Reddy Jakkireddy	Saint Peter's University	MS	2023
18.	15761A0302	Yaswanth Ala	Wichita State University	MS	2023
19.	14761A0386	Kosaraju Gopinadh	Central Michigan University	MS	2023
18.	15761A0348	Sai Teja Ravulapalli	IUPUI (Indiana University)	MS	2023
19.	18761A0399	Sai Harsha Sathuluri	Wright State University	MS	2023
20.	19761A0389	Purnasatya Sai Tarun Tataram	University of New Heaven	MS	2023
21.	19761A0324	Venga Ahok Manam	GANNON University	MS	2023
22.	18761A0345	Rakesh Kumar Sunkara	Sheffield Hallam University	MS	2023
23.	17761A0304	Pavan Kumar Bezawada	River University	MS	2023
24	18761A0380	Thirumala Sai Malluri	Bradley University	MS	Aug 2023
25	18761A0384	Venkata Sai Krishna Reddy Matta	Roosevelt University	MS	Aug 2023

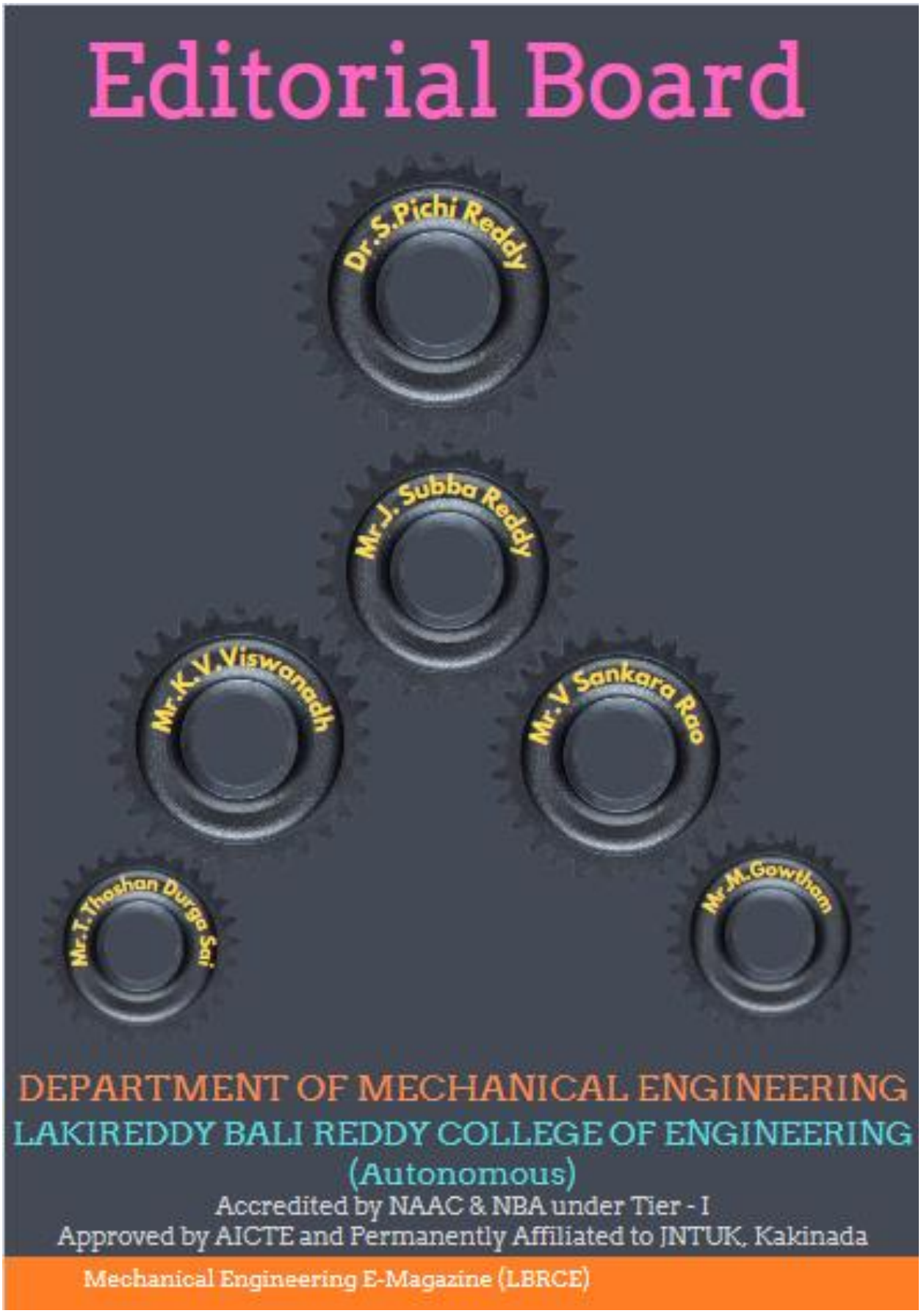
STUDENTS PLACEMENTS

S.NO	Name of the Company	Recruitment Type	No of students selected	Annual Salary (Lakhs)
1	ACCENTURE	On Campus	01	4.5
2	COGNIZANT	On Campus	13	4.0
3	CADSYS	On Campus	18	3.0
4	DESIGN TRIBE	On Campus	03	3.0
5	KODNEST	On Campus	01	4.0
6	TCS	On Campus	07	3.36
7	TVS SUNDARAM FASTENERS	On Campus	69	2.0
8	USHA FIRE SAFETY	On Campus	02	3.16

9	VEM TECHNOLOGIES	On Campus	02	3.50
10	MEIL	On Campus	36	2.4
11	**Hyundai Motors**	**On Campus**	**02**	**5.0**
12	**TCS Digital**	**On Campus**	**01**	**7.0**
13	Cyient	Off campus	02	3.8
	TOTAL		**157**	

ACKNOWLEDGEMENTS

The department expresses sincere thanks to all faculty, technical staff and students for contribution towards the technical magazine- mech pulse.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