



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

## DEPARTMENT OF MECHANICAL ENGINEERING

**Name of the Group:** Materials and Manufacturing

**Head of the Group:** Dr. Murahari Kolli, Associate Professor

Today's research in the areas of emerging materials and manufacturing is all about making value-added products that are lighter, stronger, smarter, more durable and while minimizing environmental impacts and production costs. A key challenge, however, is to gain insight into what system-level multidisciplinary approaches can intelligently integrate emerging materials with manufacturing technologies to get innovative products to market more rapidly and efficiently.

### **Aim:**

Materials and Manufacturing Group aims students in developing and designing innovative projects and to turn as entrepreneurs. Our MMG members and industry partners help students mountaineering great heights in their carrier and to promote research to meet the need of the society.

### **Objectives:**

- To educate materials and manufacturing through academic and research programmes towards industrial and environmental benefits.
- To development of frontiers materials for automobiles, aeronautical, structural, energy and environmental related applications.
- To enrich their knowledge of fabrication and machining components microstructure and morphology analysis.
- To evaluating various fabrication techniques for designing and optimizing of components and processes, related applications.
- To conduct seminars/workshops/advanced courses to disseminate the latest knowledge in the field of manufacturing and materials.

**This group has concentrating following categories:**

- Emerging materials fabrication
- Advanced manufacturing processes
- Optimization techniques
- Casting methods
- Advances welding
- Additive Manufacturing processes
- Microstructure Analysis

**Group members:**

S.No.	Faculty members	Qualification	Email ID	Designation
1	Dr.S.Pichi Reddy	M.Tech, Ph.D	seelamspr@gmail.com	Professor
2	Dr.Murahari Kolli	M.Tech, Ph.D	kmhari.nitw@gmail.com	Assoc. Professor
3	J.Subba Reddy	M.Tech, (Ph.D)	jonnalasu@yahoo.co.in	Assoc. Professor
4	S.Srinivasa Reddy	M.Tech	seelamlbrce@gmail.com	Assoc. Professor
5	B.Chaitanya	MS (Ph.D)	chaitanya.bhavaraju@lbrce.ac.in	Assoc. Professor
6	K.Narayana	M.Tech, (Ph.D)	narayana.karagani9@gmail.com	Sr. Asst. Professor
7	A.Nageswara Rao	M.Tech, (Ph.D)	nagesh803@gmail.com	Sr. Asst. Professor
8	Dhanunjay Kumar Ammisetti	M.Tech, (Ph.D)	dhanaammisetti@gmail.com	Asst. Professor

**Growth Facilities:**

1. Electronic Tensometer
2. Wear and Friction monitor
3. Melting Furness
4. Metallurgical Microscope with Image analyzer
5. Handy surf
6. Robot Arm
7. All Gear Lathe Machine with Dynamometer

**Recently peer-reviewed papers for following Journals:**

S.No	Name of journal	Reviewed (Nos)
1	Part B: Journal of Engineering Manufacture	12
2	Part C: Journal of Mechanical Engineering Science	7
3	Journal of Materials Research and Technology	3
4	Journal of The Institution of Engineers (India): Series C (IEIC)	10
5	Australian Journal of Mechanical Engineering	4
6	World Journal of Engineering	2
7	SN Applied Sciences (SNAS)	5
8	Journal of Materials Research and Technology	3
9	Recent Patents on Mechanical Engineering	2
10	Scientia Iranica	1
11	Machining Science and Technology	2

**Research Guides:**

S.No	Faculty members	Designation	Under university
1	Dr. S.Pichi Reddy	Professor	JNTUK- Kakinada
2	Dr. Murahari Kolli	Assoc. Professor	JNTUK- Kakinada & KLEF-Vaddeswaram

**Sponsored Project/Grants:**

S.No.	Name of project	Name of Faculty	Amount	Funding Agency/ Scheme	Sanctioned Year
1.	Frontier of 3D Printing Technology & its Industrial Applications (Sponsored FDP)	Dr.K.Murahari	4,77,833	AICTE	2020-2021
2.	Experimental studies on influence of cognitive and visual distractions in motor vehicle drivers leading to accidents	Mr.B.Chaitanya	21,69,000	DST Cognitive science	2015-2016
3.	Characterization of aluminum – fly –ash composites with	Dr.S.Pichi Reddy	4,55,000	UGC	2014-2015

	various metallic and non-metallic additions				
4.	Design of an effective visual prostheses using electroencephalographic patterns for estimating stimulation parameters	Mr.B.Chaintanya	53,20,000	DST	2012-2013
5.	Modernization of MT/MMS Lab	Dr.B.Ramana	13,50,000	AICTE-MODROBS	2012-2013
6.	Modernization of CAD/CAM Lab	Dr.P.Lova Raju	5,50,000	AICTE-MODROBS	2012-2013

### Research Publications:

S.No	Title of paper	Name of the author/s	Name of journal	Year of publication	ISBN/ISSN number
1	Parametric optimisation of Tribological Characteristics of Novel Al7010/B4C/BN Hybrid Metal Matrix Nano composites Using Taguchi Technique	Gopichand Dirisenapu, Lingaraju Dumpala & SeelamPichi Reddy	Australian Journal of Mechanical Engineering	2020-2021	1448-4846
2	Experimental and Cfd Analysis of Heat Transfer Rate in Multi Air Jet Impingement Over A Flat Plate and Pin-Fin Heat Sink	Gopichand Dirisenapu, Lingaraju Dumpala & Seelam Pichi Reddy	Transactions of the Indian Institute of Metals	2020-2021	0972-2815
3	Influence of rock dust reinforcement on mechanical properties of Al composite using friction stir processing	Murahari kolli , Sai Naresh Dasari, Nithin Sai Potluri & A.V.S Ramprasad	Australian Journal of Mechanical Engineering	2020-2021	1448-4846
4	Multi-objective optimization of AAJM process parameters for cutting of B4C/Gr particles reinforced Al 7075 composites using RSM-TOPSIS approach	Murahari Kolli, A.V.S Ram Prasad, Dasari Sai Naresh	SN Applied Sciences	2020-2021	2523-3971
5	Design And Analysis of Seed Sowing Mechanism for Agriculture ROBOT	A Nageswara Rao, B Chaitanya, Dr. S Pichi Reddy, N Raju, B Udaya Lakshmi, B D I Prem Kumar	International Journal of Modern Agriculture	2020-2021	2305-7246
6	Machinability studies of lead induced Ti-6Al-4V alloy using Taguchi technique on WEDM process	A.V.S Ramprasad, Ramji Koona, Murahari Kolli	Materials Today: Proceedings	2020-2021	2214-7853

7	Multi Response Optimization of Electro Discharge Machining of Ti-4V-6Al Alloy Using Taguchi based Grey Relational Analysis	Jonnala Subba Reddy, A. V. S. S. K. S. Gupta	Design Engineering (tornoto)	2020-2021	0011-9342
8	Optimization of productivity of seats using time study and assembly line balancing	Muddineni Naresh, Dhanunjay Kumar Ammisetti, Ch.Suresh & Pakanati Anil Kumar	International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)	2020-2021	2249-6890
9	Recent trends on titanium metal matrix composites: A review	Dhanunjay Kumar Ammisetti, S S Harish Kruthiventi	Materials today: Proceedings	2020-2021	2214-7853
10	Improvement of weld joint strength by applying random vibrations along with external Magnetic field	Suresh Chitturi, Mohana Krishna Chowdary K, Mummun Bhaumik, Dhanunjay Kumar Ammisetti	IOP Conference series: Materials science and Engineering	2020-2021	17578981, 1757899X
11	Modeling and Manufacturing of Progressive Die for Mechanical Press Operations	V.Venkatrami Reddy, K.Bhaskar Mutyalu, S.Srinivasa Reddy, M.Raja Naik	Turkish Journal of Computer and Mathematics Education	2020-2021	1309-4653
12	Experimental optimization of mechanical properties of Al7010/B <sub>4</sub> C/BN hybrid metal matrix nanocomposites using Taguchi technique	Gopichand Dirisenapu, Lingaraju Dumpala, Pichi Reddy Seelam	Materials Research Express	2019-2020	2053-1591
13	The effect of B <sub>4</sub> C and BN nanoparticles on the mechanical and microstructural properties of Al7010 hybrid metal matrix	Gopichand Dirisenapu, Lingaraju Dumpala, Pichi Reddy Seelam	Materials Research Express	2019-2020	2053-1591
14	The Influence of B <sub>4</sub> C and BN Nanoparticles on Al 7010 Hybrid Metal Matrix Nanocomposites	Gopichand Dirisenapu, Lingaraju Dumpala, Seelam Pichi Reddy	Emerging Materials Research	2019-2020	2046-0147
15	An Experimental Investigation on Machining Parameters of Titanium Alloy Using WEDM	A.V.S Ram Prasad, Koona Ramji, Murahari Kolli	Materials Today: Proceedings	2019-2020	2214-7853
16	Multi-Parametric Optimization of Electrical Discharge Machining of Inconel-690 Using RSM-GRA Technique	Murahari Kolli, Bhavani M, Adepu Kumar, S Pichi Reddy, Sai Naresh D	Advances In Applied Mechanical Engineering- Springer	2019-2020	2195-4356

17	Parametric Optimization of Electrical Discharge Grinding on Ti-6Al-4V Alloy Using Response Surface Methodology	Murahari Kolli, Adepu Kumar	Advances In Applied Mechanical Engineering- Springer	2019-2020	2195-4356
18	Fabrication of Plastic Shredder	Mohammad Khalid, P.Siva Manikanta, K.Srikanth, D.Rajasekhar Reddy, S.Srinivasa Reddy	Compliance Engineering Journal	2019-2020	
19	Tool shoulder and pin geometry's effect on friction stir welding: A study of literature	Chandrasekhar Sunnapu, Murahari Kolli	Materials Today: Proceedings	2019-2020	2214-7853
20	Analysis of CI Engine Performance By Thermal Barrier Coatings on Piston Under Different Cooling Rates	B Lakshmana Swamy, Moon Banerjee, Snigdha Surapaneni, P N V Balasubramanyam, Syed Akbar	International Journal of Advanced Science And Technology	2019-2020	Vol. 29, No. 7, (2020), pp. 747-755
21	Novel CFD Analysis on Heat Transfer Characteristics of Nano Coolants for Automobile Radiators	Vidya Ch, G. Ravi Kiran Sastry P. Phani Prasanthi, Snigdha Surapaneni	International Journal of Mechanical And Production Engineering Research And Development (IJMPERD)	2019-2020	2249-6890

#### Patents Published:

S.No	A.Y.	Name of Inventor	Title of the patent	Published Date	Patent Application ID	Status
1	2020-2021	Dr.K.Murahari	A Table with Adjustable Chairs	23.06.2021	345219-001	Published
2	2020-2021	Dr.K.Murahari	Chassis Design	07.04.2021	342011001	Published
3	2020-2021	Jonnala Subba Reddy	Surface Engineered Corrosion Free And Antibacterial Bio-Implants	25.09.2020	202041040589 A	Published
4	2020-2021	Jonnala Subba Reddy	Multi Stage Sheet Bulk Metal Deformation Process Using Digital Image System	11.09.2020	202041038431	Published

5	2020-2021	Jonnala Subba Reddy	Low Energy Communicator Between External Programmer and Implantable Medical Devices Using BLE Technology	26.08.2020	2020101619	Published
6	2016-2017	Chaitanya Bhavaraju	Vehicle Deceleration Indicating System	25.11.2016	201641038756	Published