

Name of the Faculty: Dr. Ranjan Kumar

Designation : Associate Professor & HOD

Department: Mechanical Engineering

No. of Publication: 124 (Journal /Book chapter: 47, Conference Publication 56, Patent Publication: 21)

Journal Publication :

Type of Journal	DOI No.	Name of the Article	Name of the Author	ISSN No.	Year of Publication
SCI	https://doi.org/10.1108/MMMS-07-2022-0139	Simulation studies on combined effect of variable geometry, rotation and temperature gradient on critical speed of gas turbine disc	Dr. Ranjan Kumar	1573-6105	2022
SCOPUS	https://doi.org/10.18311/jmmf/2022/30662	Effect of Gap Ratio on flow influenced actions of two circular in side-by-side arrangement	Dr. Ranjan Kumar	0022-2755	2022
ESCI	https://journals.stmjournals.com/article/article=2023/view=95514/	Experimental Analysis of Cutting Forces Under Different Machining Parameters and Carbide inserts During Turning of Hardened AISI 4340 Steel	Dr. Ranjan Kumar	2321–2810	2023
SCOPUS	DOI:20.14118.jsee.2024.V34I12.2048	Predicting Mosquito Repellent for Smart home system Utilizing Intelligent Machine Learning Model	Dr. Ranjan Kumar	1671-1793	2024
SCOPUS	DOI:20.14118.jsee.2024.V34I12.2044	Eco-friendly Ocean Power: Minimizing Environmental Impacts of Marine Energy Technologies	Dr. Ranjan Kumar	1671-1793	2024
SCOPUS	DOI:20.14118.jsee.2024.V34I12.2041	An Overview on Experimental Investigation on the Role of Hydrogen in Reducing Particulate Matter in Diesel Engines	Dr. Ranjan Kumar	1671-1793	2024
SCOPUS	DOI:20.14118.jsee.2024.V34I12.2040	Harnessing Wind Power: Challenges and Opportunities in Future Energy Systems	Dr. Ranjan Kumar	1671-1793	2024
SCOPUS	https://doi.org/10.1016/j.matpr.2023.02.292	Experimental study on FDM 3d printed object & position analysis using multicriteria decision-making process	Dr. Ranjan Kumar	2214-7853	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/36095	A Review on Compression-Ignition Engine Performance and Emissions with Hydrogen-Diesel Mixtures: Effect of Operational Parameters	Dr. Ranjan Kumar	0022-2755	2023
SCOPUS	https://doi.org/10.18311/jmmf/2023/36094	Experimental Investigation of Welding Parameters on Mild Steel Using Metal Active Gas Welding	Dr. Ranjan Kumar	0022-2755	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/35864	Identification of Different Features of the Reported Alternative Fuels using Exploratory Data Analysis (EDA)	Dr. Ranjan Kumar	0022-2755	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2024/37094	Optimization of Process Parameters	Dr. Ranjan Kumar	0022-2755	2024

	18311/jmmf/2023/4 3787	of Gas Metal Arc Welding using Taguchi Method	Kumar	2755	
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/43926	Damage Localization in a Beam by Lifting Wavelet Scheme and Photographic based Experimentation	Dr. Ranjan Kumar	0022- 2755	2024
SCOPUS	http://dx.doi.org/10.1016/j.matpr.2023.03.194	Experimental investigation of cutting parameter during laser beam machining of aluminium alloy 7075	Dr. Ranjan Kumar	2214- 7853	2024
SCOPUS	https://doi.org/10.18311/jmmf/2023/43064	A Review on the Approach Towards Cyber Physical Manufacturing System Architecture for Mining and Production Industries	Dr. Ranjan Kumar	0022- 2755	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/35867	Free Vibration Response of Functionally Graded Porous Metallic Plates Embedded with Piezoelectric Layers	Dr. Ranjan Kumar	0022- 2755	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/36038	Comparative Study of Wear Behaviour of Heat Treated 304 Austenitic and 410 Martensitic Stainless Steel	Dr. Ranjan Kumar	0022- 2755	2024
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/45547	TEM Analysis and Insights into the Physicomechanical Characteristics of CeLa-Substituted Bio-Glass Ceramics	Dr. Ranjan Kumar	0022- 2756	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/45541	Examining the Performance Traits of a Rear-Supported V-Cone Flowmeter	Dr. Ranjan Kumar	0022- 2756	2023
SCOPUS	https://doi.org/10.18311/jmmf/2023/35871	Metallurgical Properties of CeLa Substituted Bio-Glass Ceramics	Dr. Ranjan Kumar	0022- 2756	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/43176	CoO Substituted Borate 1393B3 Glass Scaffold with Enhanced Metallurgical Performance	Dr. Ranjan Kumar	0022- 2756	2023
SCOPUS	http://dx.doi.org/10.18311/jmmf/2023/45540	A Review of the Effects of Injection Strategy and Combustion Chamber Geometry Modification and a Single - Cylinder Diesel Engine,	Dr. Ranjan Kumar	0022- 2756	2023
NA	https://www.swamivivekanandauniversity.ac.in/jmea/img/pdf/Shahanwaz-Khan.pdf	A Reduced Kinetic Model Approach to Quantifying Injector Spray Angle Influence on NG-Diesel Combustion	Dr. Ranjan Kumar	3048- 5673	2023

Book Chapter Publication :

DOI No.	Name of the Article	Name of the Author	ISBN No.	Year of Publication
http://dx.doi.org/10.1007/978-981-19-8517-1_14	Experimental Investigation for Enhancing Surface Quality in 3D Printing Process Using Non-planar Layer Method	Dr. Ranjan Kumar	978-981-19-8516-4	2023
http://dx.doi.org/10.1002/9781394175109.ch9	Mechanical Behavior of Bioglass Materials for Bone Implantation. Mechanical Engineering in Biomedical Applications	Dr. Ranjan Kumar	978-1-394-17452-2	2024
https://www.routledge.com/Recent-Advancements-in-Computational-Intelligence-and-Design-Engineering/Le-Dhar-Kumar-Muthaiyah-Adhikari/p/book/9781032980362?srsltid=AfmBOor8eiiZ2ntuIlskAxdIj6h6vr-rgdZoo80wtGHiV-PZBfzf0Cy7	Influence of Process Parameters on Mechanical Properties in Weld Cladding	Dr. Ranjan Kumar	9781032980362	2024
https://www.routledge.com/Recent-Advancements-in-Computational-Intelligence-and-Design-Engineering/Le-Dhar-Kumar-Muthaiyah-Adhikari/p/book/9781032980362?srsltid=AfmBOor8eiiZ2ntuIlskAxdIj6h6vr-rgdZoo80wtGHiV-PZBfzf0Cy7	Solar Energy Utilization in Electric Vehicles: A Process	Dr. Ranjan Kumar	9781032980362	2024
https://www.routledge.com/Recent-Advancements-in-Computational-Intelligence-and-Design-Engineering/Le-Dhar-Kumar-Muthaiyah-Adhikari/p/book/9781032980362?srsltid=AfmBOor8eiiZ2ntuIlskAxdIj6h6vr-rgdZoo80wtGHiV-PZBfzf0Cy7	Analysis of MRR and Surface Roughness Modeling in Stainless Steel Using Response Surface Methodology	Dr. Ranjan Kumar	9781032980362	2024
https://www.routledge.com/Recent-Advancements-in-Computational-Intelligence-and-Design-Engineering/Le-Dhar-Kumar-Muthaiyah-Adhikari/p/book/9781032980362?srsltid=AfmBOor8eiiZ2ntuIlskAxdIj6h6vr-rgdZoo80wtGHiV-PZBfzf0Cy7	An ideal technique for solving linear and nonlinear Goursat problems	Dr. Ranjan Kumar	9781032980362	2024
https://doi.org/10.62906/bs.book.210	Optimization of Hydrogen Injection Timing for Improved Efficiency in Dual-Fuel Diesel Engines	Dr. Ranjan Kumar	978-93-6233-525-8	2024

https://doi.org/10.62906/bs.book.210	Mechanical Performance and Biocompatibility of Hydroxyapatite-Gadolinium Oxide (HA-Gd ₂ O ₃) Composites for Bone Regeneration Applications	Dr. Ranjan Kumar	978-93-6233-525-8	2024
https://doi.org/10.62778/int.book.478	Optimization of Process Parameters of Gas Metal Arc Welding Using Taguchi Method	Dr. Ranjan Kumar	978-93-5834-191-1	2024
https://doi.org/10.62778/int.book.478	A Review on the Approach towards Cyber Physical Manufacturing Systems (CPMS) Architecture	Dr. Ranjan Kumar	978-93-5834-191-1	2024
https://doi.org/10.62778/int.book.478	Experimental Investigation of Welding Parameters on Mild Steel Using Metal Active Gas Welding	Dr. Ranjan Kumar	978-93-5834-191-1	2024
https://doi.org/10.62778/int.book.478	Performance and Emission Characteristics of a Hydrogen-Diesel Dual Fuel Engine under Variable Load Conditions	Dr. Ranjan Kumar	978-93-5834-191-1	2024
https://doi.org/10.62778/int.book.478	Enhancing Mechanical Properties and Biocompatibility of Hydroxyapatite Composites through Gd ₂ O ₃ Doping: A Study for Biomedical Implants	Dr. Ranjan Kumar	978-93-5834-191-1	2024
https://doi.org/10.62906/bs.book.209	Impact of Hydrogen Substitution on Combustion Characteristics and NO _x Emissions in Dual Fuel Diesel Engines	Dr. Ranjan Kumar	978-93-6233-705-4	2024
NA	Sea water desalination and hydrogen generation		978-81-964878-1-2	2023
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Other Publication Details (if any)

1. Ranjan Kumar et al., 3D Printing and Its Impacts on Sustainable Manufacturing Practices, ICSR-2024.
2. Ranjan Kumar et al., Nanotechnology in Renewable Energy: A Pathway to Efficient Solar Cells, ICSR-2024.
3. Ranjan Kumar et al., Hydrogen as a Clean Energy Source: Future Innovations and Environmental Impacts, ICSR-2024.
4. Ranjan Kumar et al., Harnessing Wind Power: Challenges and Opportunities in Future Energy Systems, ICSR-2024.
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6. Ranjan Kumar et al., Current Trends in Metal Matrix Composites: Materials, Manufacturing Technologies, and Applications, ICSR-2024.
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8. Ranjan Kumar et al., Chromium Substituted 1393 Bioglass: Synthesis, Characterization, and Potential Biomedical Applications, ICSR-2024.
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10. Ranjan Kumar et al., Gd₂O₃-Replaced 1393 Bioglass with Enhanced Mechanical Properties, ICSR-2024.
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14. Ranjan Kumar et al., Eco-friendly Ocean Power: Minimizing Environmental Impacts of Marine Energy Technologies, ICSR-2024.
15. Ranjan Kumar et al., A review on aluminium metal matrix composites prepared by powder metallurgy
16. Ranjan Kumar et al., Energy Recovery and Reuse in Fluid Power Systems: A Sustainable Engineering Perspective, ICSR-2024.

17. Ranjan Kumar et al., Fluid Power in the Era of Sustainability: Advances in Eco-friendly Hydraulic and Pneumatic Systems, ICSRD-2024.
18. Ranjan Kumar et al., Green Fluid Power: Innovations in Renewable Energy Integration and Efficiency, ICSRD-2024.
19. Ranjan Kumar et al., Enhancing Efficiency in Tidal and Wave Energy Converters for Sustainable Ocean Power, ICSRD-2024.
20. Ranjan Kumar et al., Analysis of vibration response of heavy vehicle driver's seat towards prediction of musculoskeletal effect, ICEDC-2024.
21. Ranjan Kumar et al., A review on burst strength of gas turbine disc, ICEDC-2024.
22. Ranjan Kumar et al., Contact stress analysis of fir-tree joint of bladed-disc assembly using finite element method, ICEDC-2024.
23. Ranjan Kumar et al., Contemporary approaches to weld overlay, ICEDC-2024.
24. Ranjan Kumar et al., Investigation of mechanical behavior and biocompatibility glass nano powder for addressing oral bone deficiencies, ICEDC-2024.
25. Ranjan Kumar et al., Impact of operating parameters on emissions and performance of compression-ignition engines using hydrogen-diesel blends, ICEDC-2024.
26. Ranjan Kumar et al., Characterization of TiO_2 -substituted bioactive glasses: physicochemical, mechanical, biological, and in-vitro properties, , ICEDC-2024.
27. Ranjan Kumar et al., Assessing mechanical properties of composites with silicon carbide fibers in a calcium aluminosilicate glass matrix, ICEDC-2024.
28. Ranjan Kumar et al., Exploring the physico-mechanical characteristics of celadon-substituted bio-glass ceramics: TEM analysis and insights, ICEDC-2024.
29. Ranjan Kumar et al., Numerical simulation analysis on detection of crack in the beam using averaging of discrete wavelet coefficients, ICSRD-2024.
30. Ranjan Kumar et al., Mechanical properties and structure of soda lime silicate glass incorporating rare earth doping, ICSRD-2024.
31. Ranjan Kumar et al., Mechanical properties of aluminosilicate glasses: young's modulus, vickers hardness, and indentation fracture toughness, ICSRD-2024.
32. Ranjan Kumar et al., Prediction of Production of Natural Energy Sources using Singular Spectrum Analysis, ICISE 2023.
33. Ranjan Kumar et al., Solar energy utilization in electric vehicles: a process, ICISE 2023.
34. Ranjan Kumar et al., Experimental investigation of welding parameters on mild steel using metal active gas welding, ICISE 2023.
35. Ranjan Kumar et al., Optimization of process parameters of gas metal arc welding using Taguchi method, ICISE 2023.
36. Ranjan Kumar et al., Experimental and numerical analysis of tool wear in single point cutting tools, ICISE 2023.
37. Ranjan Kumar et al., Analysis of MRR and surface roughness modeling in stainless steel using response surface methodology, ICISE 2023.
38. Ranjan Kumar et al., An overview of an experimental study based performance and emissions evaluation of hydrogen diesel dual fuel operation in compression ignition engine, ICISE 2023.
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40. Ranjan Kumar et al., CuO substituted borate B_2O_3 glass scaffold with enhanced mechanical properties, ICISE 2023.
41. Ranjan Kumar et al., A review on performance and emissions of a compression ignition engine powered by hydrogen/diesel mixtures: effect of operational parameters, ICEDC-2023.
42. Ranjan Kumar et al., Physico-mechanical properties of celadon-substituted bio-

- glass, ICEDC-2023.
43. Ranjan Kumar et al., Design analysis of self-balancing bike, ICISE-2024.
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 45. Ranjan Kumar et al., Life cycle assessment of 3d printing in the field of construction industry, ICISE-2024.
 46. Ranjan Kumar et al., A study to enhance the construction efficiency of concrete pump, ICISE-2024.
 47. Ranjan Kumar et al., Enhancing the fatigue life of sandcast hypoeutectic aluminum-silicon alloy components for aerospace applications, ICISE-2024.
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 49. Ranjan Kumar et al., Impact of lanthanum oxide on the physical and mechanical characteristics of calcium fluoroalumino silicate glass systems, ICISE-2024.
 50. Ranjan Kumar et al., Synthesis and characterization of cerium substituted ha composite, ICISE-2024.
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 53. Ranjan Kumar et al., Evaluating the effectiveness of support vector machine kernels for gear fault detection: insights from confusion matrices and receiver operating characteristic analysis, ICISE-2024.
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 55. Ranjan Kumar et al., Investigation hydrogen embrittlement: mechanisms, mitigation and impact on advanced materials, ICISE-2024.
 56. Ranjan Kumar et al., Chilling innovations: thermoelectric refrigeration for sustainable cooling, ICISE-2024.

Sl. No.	Patent Title	Patent Application Number.	Year	Inventors
1.	A load handling device for construction and hawking work	431086-001	2024	Ranjan Kumar
2.	Solar powered Automatic Tobacco / non tobacco products Vending Machine	202431024111A	2024	Ranjan Kumar et al.
3.	Intelligent autonomous wheel-driven sprayer system for precision Agriculture	202431028477A	2024	Ranjan Kumar et al.
4.	Transformation of dairy by-product into sustainable biodegradable material	202431028476A	2024	Ranjan Kumar et al.
5.	Solar Air Heater	202431028487A	2024	Ranjan Kumar et al.
6.	A Method and A System for Estimating Burst Margin of Rotating Disc	201831048014A	2024	Ranjan Kumar, Sanjoy K. Ghoshal,

	(Intellectual Property India)			Vinayak Ranjan, Bipin Kumar
7.	Pin-ring electrode based atmospheric pressure plasma jet Generating system. (Intellectual Property India)	202341004118A	2023	Ranjan Kumar et al.
8.	Fabrication and design of the 360-degree rotating vehicle (Intellectual Property India)	202331022706A	2023	Ranjan Kumar et al.
9.	Plastic-Based Composite for Concrete Production	202331055315A	2023	Ranjan Kumar et al.
10.	Fabrication and design of the Solar Air Cooler	202331057258A	2023	Ranjan Kumar et al.
11.	Automatic Electromagnetic Brake Using Ferromagnetic Material Scrap	202331057359A	2023	Ranjan Kumar et al.
12.	Mini Belt grinder	202331054863A	2023	Ranjan Kumar et al.
13.	Solar Powered water Pump	202331018705A	2023	Ranjan Kumar et al.
14.	Solar-powered beard trimmer	202331018706A	2023	Ranjan Kumar et al.
15.	Sensor-based desalinization and hydroponic technologies to improve agricultural productivity of resource-scarce coastal saline areas	202331022652A	2023	Ranjan Kumar et al.
16.	Smart solar grass cutter	202331038992A	2023	Ranjan Kumar et al.
17.	Hydraulic ram pump system for water lifting in hilly region	202231035645A	2023	Ranjan Kumar et al.
18.	Atmospheric pressure plasma jet generating system (Intellectual Property India)	202241000018A	2023	Ranjan Kumar, G.D. Deepak, Atul
19.	Human motion based energy harvesting device (Intellectual Property India)	202241010368A	2022	Ranjan Kumar, G.D. Deepak, Atul
20.	Plasma filter for automobile exhaust (Intellectual Property India)	202241018002A	2022	Ranjan Kumar, G.D. Deepak, Atul
21.	A smart material fabrication method for handling deflection suppression of plates (Intellectual Property India)	20214106164A	2022	Ranjan Kumar, Atul, G.D. Deepak, P.P. Singh