

# Professor Neelesh Kumar Jain

## List of Publications by Year in descending order

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124  
papers

2,414  
citations

236833

25  
h-index

265120

42  
g-index

129  
all docs

129  
docs citations

129  
times ranked

1512  
citing authors

#	ARTICLE	IF	CITATIONS
1	Recent developments in sustainable manufacturing of gears: a review. <i>Journal of Cleaner Production</i> , 2016, 112, 3320-3330.	4.6	159
2	Causes of failure and repairing options for dies and molds: A review. <i>Engineering Failure Analysis</i> , 2013, 34, 519-535.	1.8	153
3	Optimization of process parameters of mechanical type advanced machining processes using genetic algorithms. <i>International Journal of Machine Tools and Manufacture</i> , 2007, 47, 900-919.	6.2	121
4	Development of micro-plasma transferred arc (µ-PTA) wire deposition process for additive layer manufacturing applications. <i>Journal of Materials Processing Technology</i> , 2014, 214, 1102-1110.	3.1	109
5	Parametric Optimization During Wire Electrical Discharge Machining using Response Surface Methodology. <i>Procedia Engineering</i> , 2012, 38, 2371-2377.	1.2	89
6	Modeling of material removal in mechanical type advanced machining processes: a state-of-art review. <i>International Journal of Machine Tools and Manufacture</i> , 2001, 41, 1573-1635.	6.2	86
7	RSM and ANN Modeling Approaches For Predicting Average Cutting Speed During WEDM of SiCp/6061 Al MMC. <i>Procedia Engineering</i> , 2013, 64, 767-774.	1.2	59
8	A critical review of past research and advances in abrasive flow finishing process. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 97, 741-782.	1.5	59
9	OPTIMIZATION OF ELECTRO-CHEMICAL MACHINING PROCESS PARAMETERS USING GENETIC ALGORITHMS. <i>Machining Science and Technology</i> , 2007, 11, 235-258.	1.4	54
10	Analysis and optimization of micro-geometry of miniature spur gears manufactured by wire electric discharge machining. <i>Precision Engineering</i> , 2014, 38, 728-737.	1.8	51
11	Investigations on wear characteristics of Stellite coating by micro-plasma transferred arc powder deposition process. <i>Wear</i> , 2017, 378-379, 155-164.	1.5	51
12	Parametric optimization of advanced fine-finishing processes. <i>International Journal of Advanced Manufacturing Technology</i> , 2007, 34, 1191-1213.	1.5	47
13	Comparative Study of Wire-EDM and Hobbing for Manufacturing High-Quality Miniature Gears. <i>Materials and Manufacturing Processes</i> , 2014, 29, 1470-1476.	2.7	47
14	Influence of dimple and spot-texturing of HSS cutting tool on machining of Ti-6Al-4V. <i>Journal of Materials Processing Technology</i> , 2018, 261, 1-11.	3.1	46
15	Modeling of material removal rate and surface roughness in finishing of bevel gears by electrochemical honing process. <i>Journal of Materials Processing Technology</i> , 2014, 214, 200-209.	3.1	43
16	On surface integrity of miniature spur gears manufactured by wire electrical discharge machining. <i>International Journal of Advanced Manufacturing Technology</i> , 2014, 72, 1735-1745.	1.5	39
17	Investigations on precision finishing of helical gears by electrochemical honing process. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2010, 224, 1817-1830.	1.5	35
18	Precision Finishing of Bevel Gears by Electrochemical Honing. <i>Materials and Manufacturing Processes</i> , 2013, 28, 1117-1123.	2.7	34

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19	Micro-Plasma Transferred Arc Additive Manufacturing for Die and Mold Surface Remanufacturing. <i>Jom</i> , 2016, 68, 1801-1809.	0.9	34
20	Adhesive wear of stir cast hypereutectic Al-Si-Mg alloy under reciprocating sliding conditions. <i>Wear</i> , 2009, 266, 1-5.	1.5	32
21	On Micro-Geometry of Miniature Gears Manufactured by Wire Electrical Discharge Machining. <i>Materials and Manufacturing Processes</i> , 2013, 28, 1153-1159.	2.7	30
22	On simultaneous improvement of wear characteristics, surface finish and microgeometry of straight bevel gears by abrasive flow finishing process. <i>Wear</i> , 2018, 404-405, 38-49.	1.5	28
23	State-of-art-review of electrochemical honing of internal cylinders and gears. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2009, 223, 665-681.	1.5	27
24	Analysis and optimization of surface finish of wire electrical discharge machined miniature gears. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2014, 228, 673-681.	1.5	26
25	Enhancement of Deposition Quality in Micro-plasma Transferred Arc Deposition Process. <i>Materials and Manufacturing Processes</i> , 2014, 29, 1017-1023.	2.7	26
26	State-of-art review of past research on manufacturing of meso and micro cylindrical gears. <i>Precision Engineering</i> , 2018, 51, 702-728.	1.8	26
27	Spark erosion machining of miniature gears: a critical review. <i>International Journal of Advanced Manufacturing Technology</i> , 2015, 80, 1863-1877.	1.5	24
28	Improving spur gear microgeometry and surface finish by AFF process. <i>Materials and Manufacturing Processes</i> , 2018, 33, 923-934.	2.7	24
29	Study of laser texturing assisted abrasive flow finishing for enhancing surface quality and microgeometry of spur gears. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 101, 785-799.	1.5	24
30	Thermal modeling of geometry of single-track deposition in micro-plasma transferred arc deposition process. <i>Journal of Materials Processing Technology</i> , 2016, 230, 121-130.	3.1	23
31	Three-dimensional thermal analysis of multi-layer metallic deposition by micro-plasma transferred arc process using finite element simulation. <i>Journal of Materials Processing Technology</i> , 2017, 249, 264-273.	3.1	23
32	Hybrid Machining Processes. <i>SpringerBriefs in Applied Sciences and Technology</i> , 2016, , .	0.2	23
33	Prediction of surface roughness during wire electrical discharge machining of SiC&lt;SUB align="right">p/6061 Al metal matrix composite. <i>International Journal of Industrial and Systems Engineering</i> , 2012, 12, 301.	0.1	21
34	Investigations on surface quality of WEDM-manufactured meso bevel and helical gears. <i>Materials and Manufacturing Processes</i> , 2018, 33, 1568-1577.	2.7	21
35	Evaluation of stellite coatings by $\mu$ -PTA powder, laser, and PTA deposition processes. <i>Materials and Manufacturing Processes</i> , 2018, 33, 1043-1050.	2.7	21
36	Investigations on Additive Manufacturing of Ti-6Al-4V by Microplasma Transferred Arc Powder Deposition Process. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2018, 140, .	1.3	20

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37	Developments in friction stir welding of aluminium to magnesium alloy. Journal of Adhesion Science and Technology, 2022, 36, 1365-1402.	1.4	20
38	On Use of Pulsed-Electrochemical Honing to Improve Micro-Geometry of Bevel Gears. Materials and Manufacturing Processes, 2014, 29, 1461-1469.	2.7	19
39	Advances in Gear Manufacturing. , 2017, , 67-125.		19
40	Analysis of surface roughness and out-of-roundness in the electro-chemical honing of internal cylinders. International Journal of Advanced Manufacturing Technology, 2008, 38, 491-500.	1.5	18
41	Effects of electrolyte composition and temperature on precision finishing of spur gears by pulse electrochemical honing (PECH). International Journal of Precision Technology, 2012, 3, 37.	0.2	17
42	On wire breakage and microstructure in WEDC of SiCp/6061 aluminum metal matrix composites. International Journal of Advanced Manufacturing Technology, 2012, 61, 1199-1207.	1.5	17
43	Analysis and multi-response optimization of gear quality and surface finish of meso-sized helical and bevel gears manufactured by WSEM process. Precision Engineering, 2019, 55, 293-309.	1.8	17
44	Engineered Nanomaterials for Aviation Industry in COVID-19 Context: A Time-Sensitive Review. Coatings, 2021, 11, 382.	1.2	16
45	Deviations in Geometry of Miniature Gears Fabricated by Wire Electrical Discharge Machining. , 2013, , .		15
46	Modelling and process optimisation for wire electric discharge machining of metal matrix composites. International Journal of Machining and Machinability of Materials, 2016, 18, 377.	0.1	15
47	Characteristics of Single-Track and Multi-track Depositions of Stellite by Micro-plasma Transferred Arc Powder Deposition Process. Journal of Materials Engineering and Performance, 2017, 26, 4029-4039.	1.2	15
48	Theoretical modeling and finite element simulation of dilution in micro-plasma transferred arc additive manufacturing of metallic materials. International Journal of Mechanical Sciences, 2019, 164, 105166.	3.6	15
49	Optimization of parameters of micro-plasma transferred arc additive manufacturing process using real coded genetic algorithm. International Journal of Advanced Manufacturing Technology, 2020, 106, 1239-1252.	1.5	15
50	Effect of material form on deposition characteristics in micro-plasma transferred arc additive manufacturing process. CIRP Journal of Manufacturing Science and Technology, 2020, 30, 195-205.	2.3	15
51	Investigations on surface quality, surface integrity and specific energy consumption in finishing of straight bevel gears by PECH process. International Journal of Advanced Manufacturing Technology, 2016, 85, 2207-2222.	1.5	14
52	Modeling and experimental validation of volumetric material removal rate and surface roughness depth of straight bevel gears in pulsed-ECH process. International Journal of Mechanical Sciences, 2017, 124-125, 132-144.	3.6	14
53	Effect of applied voltage and electrolyte parameters on pitch, runout, flank topology, and finishing productivity of the straight bevel gears in PECH process. Materials and Manufacturing Processes, 2017, 32, 339-347.	2.7	14
54	Investigations on joining of stainless steel tailored blanks by $\mu$ -PTA process. Materials and Manufacturing Processes, 2018, 33, 1851-1863.	2.7	14

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55	Modeling and Prediction of Residual Stresses in Additive Layer Manufacturing by Microplasma Transferred Arc Process Using Finite Element Simulation. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2019, 141, .	1.3	14
56	Surface roughness prediction in micro-plasma transferred arc metal additive manufacturing process using K-nearest neighbors algorithm. International Journal of Advanced Manufacturing Technology, 2022, 119, 2985-2997.	1.5	14
57	Effect of honing gear hardness on microgeometry and surface quality improvement of straight bevel gears in PECH process. International Journal of Advanced Manufacturing Technology, 2016, 85, 2197-2205.	1.5	13
58	Investigations on surface quality improvement of straight bevel gears by electrochemical honing process. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2016, 230, 1242-1253.	1.5	13
59	Development of friction stir powder deposition process for repairing of aerospace-grade aluminum alloys. CIRP Journal of Manufacturing Science and Technology, 2022, 38, 252-267.	2.3	13
60	Exploring temperature-controlled friction stir powder additive manufacturing process for multi-layer deposition of aluminum alloys. Journal of Materials Research and Technology, 2022, 20, 260-268.	2.6	13
61	3D-finite element simulation and image processing based prediction of width and height of single-layer deposition by micro-plasma-transferred arc process. International Journal of Advanced Manufacturing Technology, 2018, 95, 3679-3691.	1.5	12
62	Influence of MQL and hobbing parameters on microgeometry deviations and flank roughness of spur gears manufactured by MQL assisted hobbing. Journal of Materials Research and Technology, 2020, 9, 9646-9656.	2.6	12
63	Failure analysis of air cooled condenser gearbox. Case Studies in Engineering Failure Analysis, 2014, 2, 150-156.	1.2	11
64	Process Performance Comparison of ECH and PECH for Quality Enhancement of Bevel Gears. Materials and Manufacturing Processes, 2015, 30, 836-841.	2.7	11
65	1.17 Review of Miniature Gear Manufacturing. , 2017, , 504-538.		11
66	Experimental Studies on Wire Electric Discharge Cutting of SiC<sub>p</sub>/6061 Aluminum Metal Matrix Composites. Key Engineering Materials, 2010, 450, 173-176.	0.4	10
67	Exploring Wire-EDM for Manufacturing the High Quality Meso-gears. , 2014, 5, 1755-1760.		10
68	Effect of finishing time and electrolyte composition on geometric accuracy and surface finish of straight bevel gears in ECH process. CIRP Journal of Manufacturing Science and Technology, 2015, 8, 53-62.	2.3	10
69	Investigations on microgeometry of meso bevel and meso helical gears manufactured by WEDM process. International Journal of Advanced Manufacturing Technology, 2017, 93, 4217-4231.	1.5	10
70	1.4 Review of Gear Finishing Processes. , 2017, , 93-120.		10
71	Synthesis of Copper Nanoparticles by Pulsed Electrochemical Dissolution Process. Industrial & Engineering Chemistry Research, 2019, 58, 602-608.	1.8	9
72	Near-Net Shape Manufacturing of Miniature Spur Gears by Wire Spark Erosion Machining. Materials Forming, Machining and Tribology, 2016, , .	0.7	8

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73	Modeling of dimensions and investigations on geometrical deviations of metallic components manufactured by $\frac{1}{4}$ -plasma transferred arc additive manufacturing process. International Journal of Advanced Manufacturing Technology, 2020, 107, 3155-3168.	1.5	8
74	PROCESS SELECTION METHODOLOGY FOR ADVANCED MACHINING PROCESSES. Journal of Advanced Manufacturing Systems, 2003, 02, 5-45.	0.4	7
75	Investigations on tool wear and material deposition aspects of TiC coating on aluminium by electro discharge coating process. International Journal of Manufacturing Technology and Management, 2013, 27, 251.	0.1	7
76	Experimental investigations on redefining the surface quality of bevel gears by pulsed electrochemical honing. Transactions of the Institute of Metal Finishing, 2016, 94, 64-69.	0.6	7
77	Predictive modelling and parametric optimization of minimum quantity lubrication-assisted hobbing process. International Journal of Advanced Manufacturing Technology, 2020, 109, 1681-1694.	1.5	7
78	Using abrasive flow finishing process to reduce noise and vibrations of cylindrical and conical gears. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2022, 236, 1341-1354.	1.5	7
79	Investigations on geometry and productivity of micro-holes in Incoloy 800 by pulsed electrolytic jet drilling. International Journal of Advanced Manufacturing Technology, 2016, 85, 2083-2095.	1.5	6
80	Investigations on micro-geometry improvement of straight bevel gears finished by electrochemical honing process. International Journal of Advanced Manufacturing Technology, 2016, 85, 2223-2234.	1.5	6
81	Capabilities evaluation of WSEM, milling and hobbing for meso-gear manufacturing. Materials and Manufacturing Processes, 2018, 33, 1539-1548.	2.7	6
82	Wire Electric Discharge Machining of Metal Matrix Composite Materials. , 2011, , .		6
83	Performance comparison of green lubricants in gear hobbing with minimum quantity lubrication. Tribology International, 2022, 173, 107582.	3.0	6
84	Effect of stir-casting on the microstructure and adhesive wear characteristics of cast Al-Si-Cu alloy. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2009, 223, 83-87.	1.5	5
85	Precision microfinishing by electro-chemical honing. International Journal of Manufacturing Technology and Management, 2009, 17, 364.	0.1	5
86	Critical review of electrochemical honing (ECH): sustainable and alternative gear finishing process. Part 1: conventional processes and introduction to ECH. Transactions of the Institute of Metal Finishing, 2017, 95, 147-157.	0.6	5
87	Overview of Wire Spark Erosion Machining (WSEM). Materials Forming, Machining and Tribology, 2017, , 17-33.	0.7	5
88	Multiscale surface texture and fractal analysis of straight bevel gears finished by PECH and PECF process. Materials and Manufacturing Processes, 2019, 34, 1882-1887.	2.7	5
89	Investigations on thin SS sheets joining by pulsed micro-plasma transferred arc process. Journal of Micromanufacturing, 2019, 2, 15-24.	0.6	5
90	Laser texturing of helical and straight bevel gears to enhance finishing performance of AFF process. International Journal of Advanced Manufacturing Technology, 2020, 110, 2221-2238.	1.5	5

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91	Laser-Based Repair of Damaged Dies, Molds, and Gears. <i>Materials Forming, Machining and Tribology</i> , 2017, , 137-159.	0.7	4
92	Experimental investigations on surface finish and microgeometry of helical gear in pulsed-electrochemical honing process. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2019, 233, 3364-3375.	1.1	4
93	Optimization of process parameters in micro-plasma transferred arc deposition process for cobalt-based alloy. <i>Materials Today: Proceedings</i> , 2021, 44, 1681-1686.	0.9	4
94	Advances in Abrasive Flow Finishing. <i>Materials Forming, Machining and Tribology</i> , 2020, , 147-181.	0.7	4
95	Manufacturing of High Quality Miniature Gears by Wire Electric Discharge Machining. <i>DAAAM International Scientific Book</i> , 2013, , 679-696.	0.1	4
96	A Comprehensive Investigation on Development of Lightweight Aluminium Miniature Gears by Thermoelectric Erosion Machining Process. <i>Micromachines</i> , 2021, 12, 1230.	1.4	4
97	Development of theoretical models for dimensions of single-layer multi-track and multi-layer multi-track depositions by $\frac{1}{4}$ -PTA additive manufacturing process. <i>Journal of Materials Research and Technology</i> , 2022, 17, 95-110.	2.6	4
98	Additive Manufacturing of AA6063-ZrO <sub>2</sub> Composite Using Friction Stir Surface Additive Manufacturing. <i>Transactions of the Indian Institute of Metals</i> , 2023, 76, 581-588.	0.7	4
99	Overview of Hybrid Machining Processes. <i>SpringerBriefs in Applied Sciences and Technology</i> , 2016, , 1-7.	0.2	3
100	On Productivity of WSEM Process for Manufacturing Meso-Sized Helical and Bevel Gears. <i>IOP Conference Series: Materials Science and Engineering</i> , 2018, 389, 012007.	0.3	3
101	Performance of pulsed-electrochemical honing and pulsed-electrochemical finishing in improving quality of bevel gears. <i>Manufacturing Review</i> , 2018, 5, 14.	0.9	3
102	Simultaneous improvement of microgeometry and surface quality of spur and straight bevel gears by abrasive flow finishing process. <i>Journal of Micromanufacturing</i> , 2021, 4, 189-206.	0.6	3
103	Modelling and Optimization. <i>Materials Forming, Machining and Tribology</i> , 2017, , 87-117.	0.7	3
104	A feature-less approach to process planning. , 0, , .		2
105	Neural Network Based Modeling in Wire Electric Discharge Machining of SiC <sub>p</sub> /6061 Aluminum Metal Matrix Composite. <i>Advanced Materials Research</i> , 0, 383-390, 6679-6683.	0.3	2
106	Experimental investigation on geometrical aspects of micro-plasma deposited tool steel for repair applications. <i>International Journal of Modern Physics Conference Series</i> , 2014, 32, 1460347.	0.7	2
107	Performance enhancement of electrochemical honing process using ANN approach for bevel gear finishing. <i>International Journal of Precision Technology</i> , 2015, 5, 157.	0.2	2
108	Critical review of electrochemical honing: sustainable and alternative gear finishing process. Part 2: effects of various process parameters on surface characteristics and material removal rate. <i>Transactions of the Institute of Metal Finishing</i> , 2017, 95, 241-254.	0.6	2

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109	Finite Element Simulation of Pre-Heating Effect on Melt Pool Size During Micro-Plasma Transferred Arc Deposition Process. IOP Conference Series: Materials Science and Engineering, 2018, 389, 012006.	0.3	2
110	Exploring WSEM Process for Manufacturing Meso Helical and Bevel Gears. Materials Today: Proceedings, 2018, 5, 18552-18561.	0.9	2
111	Achieving sustainability in machining of cylindrical gears. , 2021, , 391-426.		2
112	Conventional Manufacturing of Cylindrical Gears. , 2017, , 35-51.		2
113	Sustainability and performance assessment of gear hobbing under different lubrication environments for manufacturing of 20MnCr5 spur gears. Sustainable Materials and Technologies, 2022, 31, e00388.	1.7	2
114	Study on Wire Electric Discharge Machining Based on Response Surface Methodology and Genetic Algorithm. Advanced Materials Research, 0, 622-623, 1280-1284.	0.3	1
115	Effect of Finishing Time on Surface Finish of Spur Gears by Abrasive Flow Finishing (AFF) Process. Lecture Notes on Multidisciplinary Industrial Engineering, 2020, , 101-111.	0.4	1
116	Developing Spiral-Conical Gears for Microsystems by Wire-Assisted Electrical Discharge Machining. Key Engineering Materials, 0, 910, 421-435.	0.4	1
117	Investigation on Solid State Nd-YAG nanosecond Laser Assisted Shock Peening of Miniature Gears. Materials Today: Proceedings, 2015, 2, 1755-1762.	0.9	0
118	Planning, Design and Details of Experimental Investigation. Materials Forming, Machining and Tribology, 2017, , 35-55.	0.7	0
119	3.23 Electrochemical Processing and Surface Finish. , 2017, , 358-380.		0
120	On Abrasive Flow Finishing of Straight Bevel Gear. Lecture Notes in Intelligent Transportation and Infrastructure, 2021, , 95-104.	0.3	0
121	High Quality Finishing of Bevel Gears by Electrochemical Honing. DAAAM International Scientific Book, 2013, , 697-710.	0.1	0
122	Experimental Results and Analysis. Materials Forming, Machining and Tribology, 2017, , 57-86.	0.7	0
123	Measurement of Gear Accuracy. , 2017, , 197-218.		0
124	Flank Surface Treatment of Spur Gears Machined by MQL Assisted Hobbing Using Micro-Plasma Transferred Arc. Defect and Diffusion Forum, 0, 417, 29-34.	0.4	0