

# Saurav Goel

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

94  
papers

2,287  
citations

28  
h-index

46  
g-index

98  
ext. papers

2,910  
ext. citations

4.4  
avg, IF

5.65  
L-index

#	Paper	IF	Citations
94	Thermal response of multi-layer UV crosslinked PEGDA hydrogels. <i>Polymer Degradation and Stability</i> , <b>2022</b> , 195, 109805	4.7	2
93	Clay Swelling: Role of Cations in Stabilizing/Destabilizing Mechanisms.. <i>ACS Omega</i> , <b>2022</b> , 7, 3185-3191	3.9	4
92	Scanning Probe Lithography: State-of-the-Art and Future Perspectives.. <i>Micromachines</i> , <b>2022</b> , 13,	3.3	1
91	Critical Review of Nanopillar-Based Mechanobactericidal Systems. <i>ACS Applied Nano Materials</i> , <b>2022</b> , 5, 1-17	5.6	3
90	A method for non-destructive determination of cocoa bean fermentation levels based on terahertz hyperspectral imaging.. <i>International Journal of Food Microbiology</i> , <b>2022</b> , 365, 109537	5.8	1
89	Nanomaterials Based Biosensing: Methods and Principle of Detection. <i>Materials Horizons</i> , <b>2022</b> , 1-27	0.6	1
88	Industry 4.0 and Digitalisation in Healthcare.. <i>Materials</i> , <b>2022</b> , 15,	3.5	6
87	Prospects of MXenes in energy storage applications.. <i>Chemosphere</i> , <b>2022</b> , 134225	8.4	5
86	Challenges and issues in continuum modelling of tribology, wear, cutting and other processes involving high-strain rate plastic deformation of metals.. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2022</b> , 130, 105185	4.1	2
85	A hybrid Grey-TOPSIS based quantum behaved particle swarm optimization for selection of electrode material to machine Ti6Al4V by electro-discharge machining. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , <b>2022</b> , 44, 1	2	0
84	Computational prediction of electrical and thermal properties of graphene and BaTiO <sub>3</sub> reinforced epoxy nanocomposites <b>2021</b> , 1, 1-14		4
83	Nanofabrication route to achieve sustainable production of next generation defect-free graphene: analysis and characterisation. <i>Nanofabrication</i> , <b>2021</b> , 6, 36-43	4	1
82	Fabrication of three-dimensional sin-shaped ripples using a multi-tip diamond tool based on the force modulation approach. <i>Journal of Manufacturing Processes</i> , <b>2021</b> , 72, 262-273	5	3
81	Influence of Tool Geometry and Process Parameters on the Properties of Friction Stir Spot Welded Multiple (AA 5754 H111) Aluminium Sheets. <i>Materials</i> , <b>2021</b> , 14,	3.5	5
80	An analytical model to predict the depth of sub-surface damage for grinding of brittle materials. <i>CIRP Journal of Manufacturing Science and Technology</i> , <b>2021</b> , 33, 454-464	3.4	3
79	In-depth microscopic characterisation of the weld faying interface revealing stress-induced metallurgical transformations during friction stir spot welding. <i>International Journal of Machine Tools and Manufacture</i> , <b>2021</b> , 164, 103716	9.4	7
78	Using circular economy principles to recycle materials in guiding the design of a wet scrubber-reactor for indoor air disinfection from coronavirus and other pathogens. <i>Environmental Technology and Innovation</i> , <b>2021</b> , 22, 101429	7	4

77	Origins of ductile plasticity in a polycrystalline gallium arsenide during scratching: MD simulation study. <i>Applied Surface Science</i> , <b>2021</b> , 552, 149489	6.7	3
76	Bactericidal surfaces: An emerging 21st-century ultra-precision manufacturing and materials puzzle. <i>Applied Physics Reviews</i> , <b>2021</b> , 8, 021303	17.3	10
75	A bibliometric study on biomimetic and bioinspired membranes for water filtration. <i>Npj Clean Water</i> , <b>2021</b> , 4,	11.2	6
74	The importance of wavelength for tight temperature control during laser-assisted machining. <i>Journal of Micromanufacturing</i> , <b>2021</b> , 4, 93-98	1.7	0
73	New insights into the methods for predicting ground surface roughness in the age of digitalisation. <i>Precision Engineering</i> , <b>2021</b> , 67, 393-418	2.9	18
72	An atomistic investigation on the wear of diamond during atomic force microscope tip-based nanomachining of gallium arsenide. <i>Computational Materials Science</i> , <b>2021</b> , 187, 110115	3.2	3
71	Novel hybrid method to additively manufacture denser graphite structures using Binder Jetting. <i>Scientific Reports</i> , <b>2021</b> , 11, 2438	4.9	3
70	Solutions of Critical Raw Materials Issues Regarding Iron-Based Alloys. <i>Materials</i> , <b>2021</b> , 14,	3.5	3
69	Powder Bed Fusion Additive Manufacturing Using Critical Raw Materials: A Review. <i>Materials</i> , <b>2021</b> , 14,	3.5	25
68	Nature-inspired materials: Emerging trends and prospects. <i>NPG Asia Materials</i> , <b>2021</b> , 13,	10.3	17
67	Molecular dynamics simulation of AFM tip-based hot scratching of nanocrystalline GaAs. <i>Materials Science in Semiconductor Processing</i> , <b>2021</b> , 130, 105832	4.3	6
66	High yield recovery of 2,3-butanediol from fermented broth accumulated on xylose rich sugarcane bagasse hydrolysate using aqueous two-phase extraction system. <i>Bioresource Technology</i> , <b>2021</b> , 337, 125463	11	4
65	Development of carbonaceous tin-based solder composite achieving unprecedented joint performance. <i>Emergent Materials</i> , <b>2021</b> , 4, 1679-1696	3.5	
64	Elastic recovery of monocrystalline silicon during ultra-fine rotational grinding. <i>Precision Engineering</i> , <b>2020</b> , 65, 64-71	2.9	8
63	Resilient and agile engineering solutions to address societal challenges such as coronavirus pandemic. <i>Materials Today Chemistry</i> , <b>2020</b> , 17, 100300	6.2	34
62	The Critical Raw Materials in Cutting Tools for Machining Applications: A Review. <i>Materials</i> , <b>2020</b> , 13,	3.5	32
61	Fused deposition modeling-based additive manufacturing (3D printing): techniques for polymer material systems. <i>Materials Today Chemistry</i> , <b>2020</b> , 16, 100248	6.2	99
60	Functional evaluation and testing of a newly developed Teleost <sup>®</sup> Fish Otolith derived biocomposite coating for healthcare. <i>Scientific Reports</i> , <b>2020</b> , 10, 258	4.9	4

59	Distribution of shallow NV centers in diamond revealed by photoluminescence spectroscopy and nanomachining. <i>Carbon</i> , <b>2020</b> , 167, 114-121	10.4	3
58	An experimental study on lap joining of multiple sheets of aluminium alloy (AA 5754) using friction stir spot welding. <i>International Journal of Advanced Manufacturing Technology</i> , <b>2020</b> , 107, 3093-3107	3.2	8
57	Towards an improved understanding of plasticity, friction and wear mechanisms in precipitate containing AZ91 Mg alloy. <i>Materialia</i> , <b>2020</b> , 10, 100640	3.2	6
56	Surface defects incorporated diamond machining of silicon. <i>International Journal of Extreme Manufacturing</i> , <b>2020</b> , 2, 045102	7.9	11
55	Horizons of modern molecular dynamics simulation in digitalized solid freeform fabrication with advanced materials. <i>Materials Today Chemistry</i> , <b>2020</b> , 18, 100356	6.2	11
54	Characterization and modelling the mechanical behaviour of poly(L-lactic acid) for the manufacture of bioresorbable vascular scaffolds by stretch blow moulding. <i>International Journal of Material Forming</i> , <b>2020</b> , 13, 43-57	2	8
53	On the use of the theory of critical distances with mesh control for fretting fatigue lifetime assessment. <i>Tribology International</i> , <b>2020</b> , 142, 105985	4.9	8
52	Benchmarking of several material constitutive models for tribology, wear, and other mechanical deformation simulations of Ti6Al4V. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2019</b> , 97, 126-137	4.1	9
51	Improved and simpler estimation of scale linearity contribution to topography measurement. <i>Precision Engineering</i> , <b>2019</b> , 60, 368-373	2.9	3
50	The role of high-pressure coolant in the wear characteristics of WC-Co tools during the cutting of Ti6Al4V. <i>Wear</i> , <b>2019</b> , 440-441, 203090	3.5	6
49	Suppressing the Use of Critical Raw Materials in Joining of AISI 304 Stainless Steel Using Activated Tungsten Inert Gas Welding. <i>Metals</i> , <b>2019</b> , 9, 1187	2.3	2
48	Suppressing scratch-induced brittle fracture in silicon by geometric design modification of the abrasive grits. <i>Journal of Materials Research and Technology</i> , <b>2019</b> , 8, 703-712	5.5	17
47	Comment on "Incipient plasticity of diamond during nanoindentation" by C. Xu, C. Liu and H. Wang, , 2017, , 36093.. <i>RSC Advances</i> , <b>2018</b> , 8, 5136-5137	3.7	4
46	Designing nanoindentation simulation studies by appropriate indenter choices: Case study on single crystal tungsten. <i>Computational Materials Science</i> , <b>2018</b> , 152, 196-210	3.2	29
45	The possibility of performing FEA analysis of a contact loading process fed by the MD simulation data. <i>International Journal of Machine Tools and Manufacture</i> , <b>2018</b> , 134, 79-80	9.4	4
44	Incipient plasticity in tungsten during nanoindentation: Dependence on surface roughness, probe radius and crystal orientation. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2018</b> , 75, 63-69	4.1	14
43	Future of nanoindentation in archaeometry. <i>Journal of Materials Research</i> , <b>2018</b> , 33, 2515-2532	2.5	6
42	Molecular dynamics simulation of the elliptical vibration-assisted machining of pure iron. <i>Journal of Micromanufacturing</i> , <b>2018</b> , 1, 6-19	1.7	15

41	Current trends and future of sequential micro-machining processes on a single machine tool. <i>Materials and Design</i> , <b>2017</b> , 127, 37-53	8.1	41
40	Cyclic Nanoindentation and Nano-Impact Fatigue Mechanisms of Functionally Graded TiN/TiNi Film. <i>Shape Memory and Superelasticity</i> , <b>2017</b> , 3, 149-167	2.8	24
39	Addressing the discrepancy of finding the equilibrium melting point of silicon using molecular dynamics simulations. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2017</b> , 473, 20170084	2.4	21
38	Parametric design optimization of hard turning of AISI 4340 steel (69 HRC). <i>International Journal of Advanced Manufacturing Technology</i> , <b>2016</b> , 82, 451-462	3.2	38
37	Influence of temperature on the anisotropic cutting behaviour of single crystal silicon: A molecular dynamics simulation investigation. <i>Journal of Manufacturing Processes</i> , <b>2016</b> , 23, 201-210	5	54
36	Advances in the surface defect machining (SDM) of hard steels. <i>Journal of Manufacturing Processes</i> , <b>2016</b> , 23, 37-46	5	8
35	Influence of microstructure on the cutting behaviour of silicon. <i>Acta Materialia</i> , <b>2016</b> , 105, 464-478	8.4	111
34	Molecular dynamics simulation investigation on the plastic flow behaviour of silicon during nanometric cutting. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2016</b> , 24, 015002	2	29
33	Diamond machining of silicon: A review of advances in molecular dynamics simulation. <i>International Journal of Machine Tools and Manufacture</i> , <b>2015</b> , 88, 131-164	9.4	229
32	Twinning anisotropy of tantalum during nanoindentation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2015</b> , 627, 249-261	5.3	46
31	Prediction of surface roughness during hard turning of AISI 4340 steel (69 HRC). <i>Applied Soft Computing Journal</i> , <b>2015</b> , 30, 279-286	7.5	86
30	Atomistic investigation on the structure-property relationship during thermal spray nanoparticle impact. <i>Computational Materials Science</i> , <b>2014</b> , 84, 163-174	3.2	23
29	Molecular dynamics simulation of nanoindentation of Fe <sub>3</sub> C and Fe <sub>4</sub> C. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2014</b> , 597, 331-341	5.3	46
28	Incipient plasticity in 4H-SiC during quasistatic nanoindentation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2014</b> , 34, 330-7	4.1	31
27	Can a carbon nano-coating resist metallic phase transformation in silicon substrate during nanoimpact?. <i>Wear</i> , <b>2014</b> , 315, 38-41	3.5	3
26	Influence of test methodology and probe geometry on nanoscale fatigue failure of diamond-like carbon film. <i>Surface and Coatings Technology</i> , <b>2014</b> , 242, 42-53	4.4	23
25	The current understanding on the diamond machining of silicon carbide. <i>Journal Physics D: Applied Physics</i> , <b>2014</b> , 47, 243001	3	70
24	Nanoindentation of polysilicon and single crystal silicon: Molecular dynamics simulation and experimental validation. <i>Journal Physics D: Applied Physics</i> , <b>2014</b> , 47, 275304	3	65

23	A Theoretical Assessment of Surface Defect Machining and Hot Machining of Nanocrystalline Silicon Carbide. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , <b>2014</b> , 136,	3.3	29
22	The development of a surface defect machining method for hard turning processes. <i>Wear</i> , <b>2013</b> , 302, 1124-1135	3.5	38
21	Anisotropy of single-crystal 3C-SiC during nanometric cutting. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2013</b> , 21, 065004	2	62
20	Brittle-ductile transition during diamond turning of single crystal silicon carbide. <i>International Journal of Machine Tools and Manufacture</i> , <b>2013</b> , 65, 15-21	9.4	126
19	Wear mechanism of diamond tools against single crystal silicon in single point diamond turning process. <i>Tribology International</i> , <b>2013</b> , 57, 272-281	4.9	112
18	An experimental investigation for the improvement of attainable surface roughness during hard turning process. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , <b>2013</b> , 227, 338-342	2.4	29
17	Replacing diamond cutting tools with CBN for efficient nanometric cutting of silicon. <i>Materials Letters</i> , <b>2012</b> , 68, 507-509	3.3	28
16	A quantitative assessment of nanometric machinability of major polytypes of single crystal silicon carbide. <i>Journal of the European Ceramic Society</i> , <b>2012</b> , 32, 3423-3434	6	93
15	Influence of temperature and crystal orientation on tool wear during single point diamond turning of silicon. <i>Wear</i> , <b>2012</b> , 284-285, 65-72	3.5	63
14	Molecular dynamics simulation model for the quantitative assessment of tool wear during single point diamond turning of cubic silicon carbide. <i>Computational Materials Science</i> , <b>2012</b> , 51, 402-408	3.2	90
13	Nanotribology at high temperatures. <i>Beilstein Journal of Nanotechnology</i> , <b>2012</b> , 3, 586-8	3	6
12	Shear instability of nanocrystalline silicon carbide during nanometric cutting. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 231902	3.4	53
11	Multiscale simulation of nanometric cutting of single crystal copper and its experimental validation. <i>Computational Materials Science</i> , <b>2011</b> , 50, 3431-3441	3.2	34
10	Atomistic aspects of ductile responses of cubic silicon carbide during nanometric cutting. <i>Nanoscale Research Letters</i> , <b>2011</b> , 6, 589	5	56
9	Single Point Diamond Turning of Single Crystal Silicon Carbide: Molecular Dynamic Simulation Study. <i>Key Engineering Materials</i> , <b>2011</b> , 496, 150-155	0.4	6
8	Simulation Study of Cutting Forces, Stresses and Temperature during Nanometric Cutting of Single Crystal Silicon. <i>Key Engineering Materials</i> , <b>2011</b> , 496, 223-228	0.4	2
7	Experimental Investigation on Microwave Sintered Composite Tool for Electro-Discharge Machining of Titanium Alloy. <i>Journal of Materials Engineering and Performance</i> , 1	1.6	0
6	Influence of rotational speed on the electrical and mechanical properties of the friction stir spot welded aluminium alloy sheets. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 1	1.9	1

5	Role of thermal spray in combating climate change. <i>Emergent Materials</i> ,1	3.5	4
4	Atomic-Scale Friction Studies on Single-Crystal Gallium Arsenide Using Atomic Force Microscope and Molecular Dynamics Simulation. <i>Nanomanufacturing and Metrology</i> ,1	3.4	5
3	Large-scale manufacturing route to metamaterial coatings using thermal spray techniques and their response to solar radiation. <i>Emergent Materials</i> ,1	3.5	1
2	Emergence of machine learning in the development of high entropy alloy and their prospects in advanced engineering applications. <i>Emergent Materials</i> ,1	3.5	8
1	Thermal Spray Coatings for Electromagnetic Wave Absorption and Interference Shielding: A Review and Future Challenges. <i>Advanced Engineering Materials</i> ,2200171	3.5	2