

# Gandham Phanikumar

## 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.

83  
papers

1,223  
citations

19  
h-index

31  
g-index

85  
ext. papers

1,452  
ext. citations

3.1  
avg, IF

4.87  
L-index

#	Paper	IF	Citations
83	Prediction of growth velocity of undercooled multicomponent metallic alloys using a machine learning approach. <i>Scripta Materialia</i> , <b>2022</b> , 207, 114309	5.6	0
82	Accelerated Design of Eutectic High Entropy Alloys by ICME Approach. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2021</b> , 52, 1574-1580	2.3	6
81	Microstructure stability during high temperature deformation of CoCrFeNiTa eutectic high entropy alloy through nano-scale precipitation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 824, 141793	5.3	8
80	Machine learning-enabled identification of new medium to high entropy alloys with solid solution phases. <i>Computational Materials Science</i> , <b>2021</b> , 197, 110623	3.2	4
79	Design and deformation characteristics of single-phase Co-Cr-Fe-Ni-V high entropy alloy. <i>Journal of Alloys and Compounds</i> , <b>2021</b> , 888, 161579	5.7	4
78	Influence of thermomechanical processing parameters on microstructural evolution of a gamma-prime strengthened cobalt based superalloy during high temperature deformation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 791, 139498	5.3	3
77	Experimental and simulation studies of solidification behaviour in undercooled CuCoNi equiatomic medium entropy alloy. <i>European Physical Journal: Special Topics</i> , <b>2020</b> , 229, 145-155	2.3	1
76	Growth kinetics, microhardness and microstructure evolution of undercooled FeCoNiCuSn high entropy alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 777, 139022	5.3	7
75	On the effect of W addition on microstructural evolution and $\gamma$ precipitate coarsening in a Co <sub>30</sub> Ni <sub>30</sub> Al <sub>10</sub> Mo <sub>2</sub> Ta <sub>2</sub> Ti alloy. <i>Materialia</i> , <b>2020</b> , 10, 100632	3.2	14
74	Nano-sized Cu clusters in deeply undercooled CoCuFeNiTa high entropy alloy. <i>Scripta Materialia</i> , <b>2020</b> , 177, 58-64	5.6	14
73	Hot workability of Co <sub>30</sub> Fe <sub>30</sub> Mn <sub>10</sub> Ni <sub>10</sub> Ti eutectic high entropy alloy. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 822, 153609	5.7	9
72	Metastable microstructures in the solidification of undercooled high entropy alloys. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 821, 153488	5.7	8
71	Enhanced magnetocaloric effect in undercooled rare earth intermetallic compounds RNi (R = Gd, Ho and Er). <i>Journal of Magnetism and Magnetic Materials</i> , <b>2020</b> , 499, 166302	2.8	1
70	Development of ultrahigh strength novel Co <sub>30</sub> Cr <sub>30</sub> Fe <sub>10</sub> Ni <sub>10</sub> Zr quasi-peritectic high entropy alloy by an integrated approach using experiment and simulation. <i>Materialia</i> , <b>2020</b> , 14, 100896	3.2	7
69	ICME Framework for Simulation of Microstructure and Property Evolution During Gas Metal Arc Welding in DP980 Steel. <i>Integrating Materials and Manufacturing Innovation</i> , <b>2020</b> , 9, 228-239	2.9	2
68	Solidification behaviour of undercooled equiatomic FeCuNi alloy. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 815, 152334	5.7	6
67	Effect of Friction Stir Welding Parameters on Mechanical Properties and Microstructure of AA2195 Al <sub>3</sub> Si Alloy Welds. <i>Transactions of the Indian Institute of Metals</i> , <b>2019</b> , 72, 1557-1561	1.2	5

66	Effect of Zr addition on the mechanical properties of Nb Si based alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 754, 224-231	5.3	17
65	Effect of niobium addition in FeCoNiCuNbx high-entropy alloys. <i>Journal of Materials Research</i> , <b>2019</b> , 34, 700-708	2.5	11
64	Experimental and modelling studies for solidification of undercooled Ni-Fe-Si alloys. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2019</b> , 377, 20180208	3	7
63	Design of a Seven-Component Eutectic High-Entropy Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2019</b> , 50, 2594-2598	2.3	19
62	Hot Deformation Behavior and Microstructural Characterization of CoCrFeNiNb0.45 Eutectic High Entropy Alloy. <i>Materials Performance and Characterization</i> , <b>2019</b> , 8, 20190014	0.5	
61	Influence of post-carburizing heat treatment on the core microstructural evolution and the resulting mechanical properties in case-hardened steel components. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 744, 778-789	5.3	11
60	Experimental and finite element simulation studies on hot deformation behaviour of AlCoCrFeNi2.1 eutectic high entropy alloy. <i>Journal of Alloys and Compounds</i> , <b>2018</b> , 749, 1115-1127	5.7	42
59	Effect of Zr additions on microstructure evolution and phase formation of NbSi based ultrahigh temperature alloys. <i>Intermetallics</i> , <b>2018</b> , 101, 123-132	3.5	15
58	Weld Solidification Cracking Behaviour of AA2195 AlCuLi Alloy. <i>Transactions of the Indian Institute of Metals</i> , <b>2018</b> , 71, 2667-2670	1.2	2
57	Microstructure based simulations for prediction of flow curves and selection of process parameters for inter-critical annealing in DP steel. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2017</b> , 192, 012010	0.4	3
56	Effect of Alloying Additions and Heat Treatment on the Microstructure Evolution of Nb-16Si Alloy. <i>Materials Today: Proceedings</i> , <b>2016</b> , 3, 3094-3103	1.4	3
55	Solidification Behavior in Newly Designed Ni-Rich Ni-Ti-Based Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2016</b> , 47, 6214-6223	2.3	8
54	Microstructural, Magnetic and Electrical Properties of Ni <sub>2</sub> FeGa Heusler Alloys. <i>Transactions of the Indian Institute of Metals</i> , <b>2016</b> , 69, 1389-1396	1.2	1
53	Hot deformation behaviour and processing map of Co-Cu-Fe-Ni-Ti eutectic high entropy alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 664, 227-235	5.3	68
52	Premartensite transition in Ni <sub>2</sub> FeGa Heusler alloy. <i>Materials Characterization</i> , <b>2015</b> , 102, 24-28	3.9	6
51	Martensite Transformation and Magnetic Properties of Ni-Fe-Ga Heusler Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2015</b> , 46, 4947-4955	2.3	10
50	Crystal/Melt Interface Growth Velocity of Ni <sub>2</sub> Zr Alloys Through Molecular Dynamics Simulations. <i>Transactions of the Indian Institute of Metals</i> , <b>2015</b> , 68, 1113-1117	1.2	2
49	Phase Evolution in Hypereutectic Al <sub>90</sub> Cu <sub>10-x</sub> Nix (x = 0, 5) Alloys. <i>Transactions of the Indian Institute of Metals</i> , <b>2015</b> , 68, 1221-1226	1.2	1

48	MPI + OpenCL implementation of a phase-field method incorporating CALPHAD description of Gibbs energies on heterogeneous computing platforms. <i>Computer Physics Communications</i> , <b>2015</b> , 186, 48-64	4.2	4
47	Correlation of Microstructure With HAZ Welding Cycles Simulated in Ti-15-3 Alloy Using Gleeble <sup>®</sup> 3800 and SYSWELD <sup>®</sup> . <i>Materials Performance and Characterization</i> , <b>2015</b> , 4, MPC20140065	0.5	1
46	Microstructure and Magnetic Properties of Ni <sub>2</sub> (Mn,Fe)Ga Heusler Alloys Rapidly Solidified by Melt Spinning. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2014</b> , 45, 2161-2170	2.3	7
45	Microstructure and Phase Evolution of Ni <sub>2</sub> FeGa Heusler Alloy Extended to Different Degrees of Undercooling. <i>Materials Science Forum</i> , <b>2014</b> , 790-791, 199-204	0.4	6
44	Studies on multipass welding with trailing heat sink considering phase transformation. <i>Journal of Materials Processing Technology</i> , <b>2014</b> , 214, 1228-1235	5.3	20
43	Numerical Study of Welding with Trailing Heat Sink Considering Phase Transformation Effects. <i>Advanced Materials Research</i> , <b>2014</b> , 875-877, 2118-2122	0.5	1
42	Experimental and numerical studies on friction welding of thixocast A356 aluminum alloy. <i>Acta Materialia</i> , <b>2014</b> , 73, 177-185	8.4	30
41	Microstructural Evolution During Friction Surfacing of Austenitic Stainless Steel AISI 304 on Low Carbon Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2013</b> , 44, 345-350	2.3	16
40	Corrosion Resistance of Friction Surfaced AISI 304 Stainless Steel Coatings. <i>Journal of Materials Engineering and Performance</i> , <b>2013</b> , 22, 366-370	1.6	13
39	Investigation of Fusion Weldments of Semi-Solid Aluminium A356 Alloy: Pool Geometry and Microstructure. <i>Materials Science Forum</i> , <b>2013</b> , 765, 751-755	0.4	2
38	Structure and magnetic properties of Ni <sub>2</sub> (Mn,Co)Ga Heusler alloys rapidly solidified by melt-spinning. <i>Intermetallics</i> , <b>2012</b> , 25, 42-47	3.5	4
37	Numerical Studies on Effect of Interpass Time on Distortion and Residual Stresses in Multipass Welding. <i>Advanced Materials Research</i> , <b>2012</b> , 601, 31-36	0.5	2
36	Phase evolution and properties of Ni <sub>50</sub> Co <sub>23</sub> Fe <sub>2</sub> Ga <sub>25</sub> Heusler alloy undercooled by electromagnetic levitation. <i>Intermetallics</i> , <b>2011</b> , 19, 1705-1710	3.5	10
35	Computational modelling of dendritic to globular transition using an isothermal binary phase-field model. <i>Transactions of the Indian Institute of Metals</i> , <b>2011</b> , 64, 251-254	1.2	2
34	Influence of Mg on Grain Refinement of Near Eutectic Al-Si Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2011</b> , 42, 2028-2039	2.3	14
33	Material Flow Visualization during Friction Surfacing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2011</b> , 42, 937-939	2.3	25
32	Thermal Profiling Using Infrared Thermography in Friction Surfacing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2011</b> , 42, 3425-3429	2.3	28
31	Effect of Planar Flow Melt Spinning Parameters on Ribbon Formation in Soft Magnetic Fe <sub>68.5</sub> Si <sub>18.5</sub> B <sub>9</sub> Nb <sub>3</sub> Cu <sub>1</sub> Alloy. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2011</b> , 42, 370-379	2.5	28

30	Microstructural evolution during friction surfacing of tool steel H13. <i>Materials &amp; Design</i> , <b>2011</b> , 32, 82-87		70
29	Joining of dissimilar metals: issues and modelling techniques. <i>Science and Technology of Welding and Joining</i> , <b>2011</b> , 16, 313-317	3.7	12
28	Martensite and Nanocrystalline Phase Formation in Rapidly Solidified Ni <sub>2</sub> MnGa Alloy by Melt-Spinning. <i>Materials Science Forum</i> , <b>2010</b> , 649, 35-40	0.4	3
27	Microstructure and Properties of Friction Surfaced Stainless Steel and Tool Steel Coatings. <i>Materials Science Forum</i> , <b>2010</b> , 638-642, 864-869	0.4	13
26	Experimental studies and phase field modeling of microstructure evolution during solidification with electromagnetic stirring. <i>Transactions of Nonferrous Metals Society of China</i> , <b>2010</b> , 20, s774-s780	3.3	3
25	Microstructure engineering of materials. <i>International Journal of Advances in Engineering Sciences and Applied Mathematics</i> , <b>2010</b> , 2, 125-125	0.6	1
24	Microstructure and tensile properties of friction welded aluminum alloy AA7075-T6. <i>Materials &amp; Design</i> , <b>2010</b> , 31, 2375-2380		86
23	Fracture toughness (J1C) of electron beam welded AA2219 alloy. <i>Materials &amp; Design</i> , <b>2010</b> , 31, 4943-4950		13
22	Friction surfaced tool steel (H13) coatings on low carbon steel: A study on the effects of process parameters on coating characteristics and integrity. <i>Surface and Coatings Technology</i> , <b>2010</b> , 205, 232-242	4.4	56
21	Amorphous and nano crystalline phase formation in Ni <sub>2</sub> MnGa ferromagnetic shape memory alloy synthesized by melt spinning. <i>Journal of Materials Science</i> , <b>2009</b> , 44, 2553-2559	4.3	9
20	Microstructure and Mechanical Properties of Gas-Tungsten-Arc Welded Ti-15-3 Beta Titanium Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2009</b> , 40, 2685-2693	2.3	13
19	Microstructure and Magnetic Properties of Rapidly Solidified Ni <sub>2</sub> (Mn,Fe)Ga Heusler Alloys. <i>Advanced Materials Research</i> , <b>2009</b> , 74, 215-218	0.5	7
18	Disorder trapping and grain refinement during solidification of undercooled Fe <sub>81</sub> at% Ge melts. <i>Philosophical Magazine</i> , <b>2007</b> , 87, 3817-3837	1.6	27
17	Non-equilibrium solidification of concentrated Fe <sub>81</sub> alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2007</b> , 449-451, 12-17	5.3	8
16	Dendritic solidification and fragmentation in undercooled Ni <sub>81</sub> r alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2007</b> , 449-451, 649-653	5.3	21
15	Particle incorporation in metallic melts during dendritic solidification—Undercooling experiments under reduced gravity. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2007</b> , 449-451, 689-692	5.3	3
14	Improvement of mechanical properties of gas tungsten arc and electron beam welded AA2219 (Al <sub>81</sub> wt-%Cu) alloy. <i>Science and Technology of Welding and Joining</i> , <b>2007</b> , 12, 579-585	3.7	19
13	Phase-Field Modeling of Dendritic Solidification in Undercooled Droplets Processed by Electromagnetic Levitation. <i>Materials Science Forum</i> , <b>2006</b> , 508, 431-436	0.4	4

12	Dendrite growth velocity in levitated undercooled nickel melts. <i>Journal of Crystal Growth</i> , <b>2006</b> , 297, 211-222	1.6	51
11	Continuous welding of Cu-Ni dissimilar couple using CO <sub>2</sub> laser. <i>Science and Technology of Welding and Joining</i> , <b>2005</b> , 10, 158-166	3.7	17
10	Solidification of undercooled peritectic Fe-Te alloy. <i>Acta Materialia</i> , <b>2005</b> , 53, 3591-3600	8.4	39
9	Characterization of a continuous CO <sub>2</sub> laser-welded Fe-Cu dissimilar couple. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2005</b> , 36, 2137-2147	2.3	45
8	Computational modeling of laser welding of Cu-Ni dissimilar couple. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2004</b> , 35, 339-350	2.5	33
7	Microstructural evolution during remelting of laser surface alloyed hyper-monotectic Al-Bi alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2004</b> , 371, 91-102	5.3	28
6	Rapid solidification behaviour of undercooled levitated Fe-Te alloy droplets. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2004</b> , 375-377, 464-467	5.3	26
5	Transport phenomena in laser surface alloying. <i>Journal of Materials Science</i> , <b>2003</b> , 38, 155-164	4.3	11
4	Modelling of transport phenomena in laser surface alloying with distributed species mass source. <i>International Journal of Heat and Fluid Flow</i> , <b>2002</b> , 23, 298-307	2.4	52
3	Microstructural development of dissimilar weldments: case of MIG welding of Cu with Fe filler. <i>Journal of Materials Science</i> , <b>2002</b> , 37, 2345-2349	4.3	7
2	Solidification microstructure development. <i>Sadhana - Academy Proceedings in Engineering Sciences</i> , <b>2001</b> , 26, 25-34	1	7
1	ICME framework to simulate microstructure evolution during laser powder bed fusion of Haynes 282 nickel-based superalloy. <i>Journal of Materials Science</i> , 1	4.3	1