Sumit Bahl

List of Publications by Year
in descending order

36 papers	1,471 citations	331670 21 h-index	361022 35 g-index
38 all docs	38 docs citations	38 times ranked	1188 citing authors

#	Article	IF	Citations
1	Globularization using heat treatment in additively manufactured Ti-6Al-4V for high strength and toughness. Acta Materialia, 2019, 162, 239-254.	7.9	214
2	Microstructure and properties of a high temperature Alâ€"Ceâ€"Mn alloy produced by additive manufacturing. Acta Materialia, 2020, 196, 595-608.	7.9	116
3	Elucidating microstructural evolution and strengthening mechanisms in nanocrystalline surface induced by surface mechanical attrition treatment of stainless steel. Acta Materialia, 2017, 122, 138-151.	7.9	115
4	Solute-vacancy clustering in aluminum. Acta Materialia, 2020, 196, 747-758.	7.9	96
5	Non-equilibrium microstructure, crystallographic texture and morphological texture synergistically result in unusual mechanical properties of 3D printed 316L stainless steel. Additive Manufacturing, 2019, 28, 65-77.	3.0	73
6	Comprehensive review on alloy design, processing, and performance of<i>Î²</i>Titanium alloys as biomedical materials. International Materials Reviews, 2021, 66, 114-139.	19.3	71
7	Enhancing the mechanical and biological performance of a metallic biomaterial for orthopedic applications through changes in the surface oxide layer by nanocrystalline surface modification. Nanoscale, 2015, 7, 7704-7716.	5.6	63
8	Aging behavior and strengthening mechanisms of coarsening resistant metastable Î¸' precipitates in an Alâ€"Cu alloy. Materials and Design, 2021, 198, 109378.	7.0	62
9	Controlled nanoscale precipitation to enhance the mechanical and biological performances of a metastable Î² Ti-Nb-Sn alloy for orthopedic applications. Materials and Design, 2017, 126, 226-237.	7.0	55
10	A creep-resistant additively manufactured Al-Ce-Ni-Mn alloy. Acta Materialia, 2022, 227, 117699.	7.9	51
11	Engineering the next-generation tin containing Î² titanium alloys with high strength and low modulus for orthopedic applications. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 124-133.	3.1	44
12	Elevated temperature ductility dip in an additively manufactured Al-Cu-Ce alloy. Acta Materialia, 2021, 220, 117285.	7.9	38
13	Cavitation-resistant intergranular precipitates enhance creep performance of Î¸â€²-strengthened Al-Cu based alloys. Acta Materialia, 2022, 228, 117788.	7.9	38
14	The importance of crystallographic texture in the use of titanium as an orthopedic biomaterial. RSC Advances, 2014, 4, 38078-38087.	3.6	37
15	Thermomechanical response and toughening mechanisms of a carbon nano bead reinforced epoxy composite. Materials Chemistry and Physics, 2015, 166, 144-152.	4.0	37
16	An additively manufactured AlCuMnZr alloy microstructure and tensile mechanical properties. Materialia, 2020, 12, 100758.	2.7	36
17	Surface nanostructuring of titanium imparts multifunctional properties for orthopedic and cardiovascular applications. Materials and Design, 2018, 144, 169-181.	7.0	35
18	Effect of copper content on the tensile elongation of Alâ€"Cuâ€"Mnâ€"Zr alloys: Experiments and finite element simulations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138801.	5.6	28

#	Article	IF	Citations
19	Enhanced biomechanical performance of additively manufactured Ti-6Al-4V bone plates. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 119, 104552.	3.1	25
20	The control of crystallographic texture in the use of magnesium as a resorbable biomaterial. RSC Advances, 2014, 4, 55677-55684.	3.6	24
21	The role of Si in determining the stability of the Î¸â€² precipitate in Al-Cu-Mn-Zr alloys. Journal of Alloys and Compounds, 2021, 862, 158152.	5.5	22
22	Primary solidification of ternary compounds in Al-rich Alâ€“Ceâ€“Mn alloys. Journal of Alloys and Compounds, 2020, 844, 156048.	5.5	21
23	Effect of grain-boundary Î¸-Al2Cu precipitates on tensile and compressive creep properties of cast Alâ€“Cuâ€“Mnâ€“Zr alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 840, 142946.	5.6	19
24	Surface Severe Plastic Deformation of an Orthopedic Tiâ€“Nbâ€“Sn Alloy Induces Unusual Precipitate Remodeling and Supports Stem Cell Osteogenesis through Akt Signaling. ACS Biomaterials Science and Engineering, 2018, 4, 3132-3142.	5.2	18
25	Microstructural evolution and strengthening mechanisms in a heat-treated additively manufactured Alâ€“Cuâ€“Mnâ€“Zr alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 840, 142928.	5.6	15
26	Effect of boron addition and processing of Tiâ€“6Alâ€“4V on corrosion behaviour and biocompatibility. Materials Technology, 2014, 29, B64-B68.	3.0	14
27	Process mediated polymorphism, crystallographic texture and structure-property correlation in crystalline/amorphous blends. Polymer, 2018, 138, 307-319.	3.8	14
28	Processingâ€“Microstructureâ€“Crystallographic Textureâ€“Surface Property Relationships in Friction Stir Processing of Titanium. Journal of Materials Engineering and Performance, 2017, 26, 4206-4216.	2.5	13
29	Role of aging induced Î± precipitation on the mechanical and tribocorrosive performance of a Î² Ti-Nb-Ta-O orthopedic alloy. Materials Science and Engineering C, 2019, 103, 109755.	7.3	13
30	Influence of copper content on the high temperature tensile and low cycle fatigue behavior of cast Al-Cu-Mn-Zr alloys. International Journal of Fatigue, 2020, 140, 105836.	5.7	12
31	Role of Substrate Temperature in the Pulsed Laser Deposition of Zirconium Oxide Thin Film. Materials Science Forum, 0, 710, 757-761.	0.3	11
32	Variant selection in metastable Î² Ti-V-Fe-Al alloy during triaxial and uniaxial compression. Materialia, 2018, 4, 20-32.	2.7	11
33	Al-Cu-Ce(-Zr) alloys with an exceptional combination of additive processability and mechanical properties. Additive Manufacturing, 2021, 48, 102404.	3.0	9
34	Establishing the microstructure-strengthening correlation in severely deformed surface of titanium. Philosophical Magazine, 2018, 98, 2095-2119.	1.6	7
35	Repurposing the Î¸ (Al2Cu) phase to simultaneously increase the strength and ductility of an additively manufactured Alâ€“Cu alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 850, 143511.	5.6	7
36	Retardation of Small Creepâ€“Fatigue Crack in Gr. 91 Steel Through the Combined Effects of Stress Relaxation, Microstructural Evolution, and Oxidation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 6110-6121.	2.2	4