Debrupa Lahiri

List of Publications by Year
in descending order

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120	6,928	61945	62565
papers	citations	43 h-index	80 g-index

123	123	123	7311
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Carbon nanotube reinforced metal matrix composites - a review. International Materials Reviews, 2010, 55, 41-64.	9.4	1,220
2	Graphene reinforced metal and ceramic matrix composites: a review. International Materials Reviews, 2017, 62, 241-302.	9.4	458
3	Synthesis and properties of bulk graphene nanoplatelets consolidated by spark plasma sintering. Carbon, 2012, 50, 4068-4077.	5.4	248
4	Boron nitride nanotube reinforced polylactideâ€“polycaprolactone copolymer composite: Mechanical properties and cytocompatibility with osteoblasts and macrophages in vitro. Acta Biomaterialia, 2010, 6, 3524-3533.	4.1	221
5	Strengthening mechanism in graphene nanoplatelets reinforced aluminum composite fabricated through spark plasma sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 695, 20-28.	2.6	209
6	Carbon nanotube toughened hydroxyapatite by spark plasma sintering: Microstructural evolution and multiscale tribological properties. Carbon, 2010, 48, 3103-3120.	5.4	184
7	Boron nitride nanotube reinforced hydroxyapatite composite: Mechanical and tribological performance and in-vitro biocompatibility to osteoblasts. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 44-56.	1.5	182
8	Carbon nanotube reinforced hydroxyapatite composite for orthopedic application: A review. Materials Science and Engineering C, 2012, 32, 1727-1758.	3.8	179
9	Tensile properties of carbon nanotube reinforced aluminum nanocomposite fabricated by plasma spray forming. Composites Part A: Applied Science and Manufacturing, 2009, 40, 589-594.	3.8	161
10	Graphene Nanoplatelet-Induced Strengthening of UltraHigh Molecular Weight Polyethylene and Biocompatibility In vitro. ACS Applied Materials & Interfaces, 2012, 4, 2234-2241.	4.0	143
11	Graphene NanoPlatelets reinforced tantalum carbide consolidated by spark plasma sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 582, 338-346.	2.6	143
12	Measurements of the adhesion energy of graphene to metallic substrates. Carbon, 2013, 59, 121-129.	5.4	123
13	Electrophoretic deposition of hydroxyapatite coating on Mgâ€“3Zn alloy for orthopaedic application. Surface and Coatings Technology, 2016, 287, 82-92.	2.2	101
14	Mechanical, corrosion and biocompatibility behaviour of Mg-3Zn-HA biodegradable composites for orthopaedic fixture accessories. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 442-454.	1.5	100
15	Nanotribological behavior of graphene nanoplatelet reinforced ultra high molecular weight polyethylene composites. Tribology International, 2014, 70, 165-169.	3.0	95
16	Dual strengthening mechanisms induced by carbon nanotubes in roll bonded aluminum composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 523, 263-270.	2.6	91
17	Spark plasma sintered tantalum carbide: Effect of pressure and nano-boron carbide addition on microstructure and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 1287-1295.	2.6	88
18	Effects of carbon nanotube aspect ratio on strengthening and tribological behavior of ultra high molecular weight polyethylene composite. Composites Part A: Applied Science and Manufacturing, 2015, 76, 62-72.	3.8	88

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19	Effect of carbon nanotube and aluminum oxide addition on plasma-sprayed hydroxyapatite coating's mechanical properties and biocompatibility. Materials Science and Engineering C, 2009, 29, 2195-2202.	3.8	87
20	Strengthening of Mg based alloy through grain refinement for orthopaedic application. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 59, 57-70.	1.5	87
21	Aligned carbon nanotube reinforced polymeric scaffolds with electrical cues for neural tissue regeneration. Carbon, 2015, 95, 715-724.	5.4	86
22	Electric field and current assisted alignment of CNT inside polymer matrix and its effects on electrical and mechanical properties. Polymer, 2016, 89, 119-127.	1.8	86
23	In Vivo Osseointegration of Nano-Designed Composite Coatings on Titanium Implants. ACS Nano, 2011, 5, 4790-4799.	7.3	81
24	Spark plasma sintered tantalum carbideâ€“carbon nanotube composite: Effect of pressure, carbon nanotube length and dispersion technique on microstructure and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 2538-2547.	2.6	80
25	Carbon Nanotube Reinforced Polylactideâ^'Caprolactone Copolymer: Mechanical Strengthening and Interaction with Human Osteoblasts in Vitro. ACS Applied Materials & Interfaces, 2009, 1, 2470-2476.	4.0	78
26	Boron nitride nanotubes reinforced aluminum composites prepared by spark plasma sintering: Microstructure, mechanical properties and deformation behavior. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 574, 149-156.	2.6	72
27	Nanoscratch behavior of carbon nanotube reinforced aluminum coatings. Thin Solid Films, 2010, 518, 1703-1711.	0.8	68
28	Carbon Nanotubes: How Strong Is Their Bond with the Substrate?. ACS Nano, 2011, 5, 780-787.	7.3	67
29	Oxidation behavior of graphene nanoplatelet reinforced tantalum carbide composites in high temperature plasma flow. Carbon, 2014, 67, 398-408.	5.4	65
30	Wear behavior and in vitro cytotoxicity of wear debris generated from hydroxyapatiteâ€“carbon nanotube composite coating. Journal of Biomedical Materials Research - Part A, 2011, 96A, 1-12.	2.1	63
31	Microstructure, mechanical properties, and in vitro biocompatibility of spark plasma sintered hydroxyapatiteâ€“aluminum oxideâ€“carbon nanotube composite. Materials Science and Engineering C, 2010, 30, 1162-1169.	3.8	62
32	Multi-scale hierarchy of Chelydra serpentina: Microstructure and mechanical properties of turtle shell. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1440-1451.	1.5	58
33	Cold sprayed aluminum based glassy coating: Synthesis, wear and corrosion properties. Surface and Coatings Technology, 2013, 232, 33-40.	2.2	56
34	Compression Molded Ultra High Molecular Weight Polyethyleneâ€“Hydroxyapatiteâ€“Aluminum Oxideâ€“Carbon Nanotube Hybrid Composites forÂHard Tissue Replacement. Journal of Materials Science and Technology, 2013, 29, 514-522.	5.6	53
35	Effect of graphene and <scp>CNT</scp> reinforcement on mechanical and thermomechanical behavior of epoxyâ€”A comparative study. Journal of Applied Polymer Science, 2018, 135, 46101.	1.3	53
36	Unfolding the Damping Behavior of Multilayer Graphene Membrane in the Low-Frequency Regime. ACS Nano, 2012, 6, 3992-4000.	7.3	50

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37	Differential neural cell adhesion and neurite outgrowth on carbon nanotube and graphene reinforced polymeric scaffolds. Materials Science and Engineering C, 2019, 97, 539-551.	3.8	50
38	X-ray diffraction line profile analysis for defect study in Cu-1 wt.% Cr-0.1 wt.% Zr alloy. Materials Characterization, 2005, 54, 131-140.	1.9	49
39	Direct observation of carbon nanotube induced strengthening in aluminum composite via in situ tensile tests. Carbon, 2014, 69, 79-85.	5.4	48
40	Insight into reactions and interface between boron nitride nanotube and aluminum. Journal of Materials Research, 2012, 27, 2760-2770.	1.2	47
41	Ultrahigh-pressure consolidation and deformation of tantalum carbide at ambient and high temperatures. Acta Materialia, 2013, 61, 4001-4009.	3.8	46
42	Bioengineered smart trilayer skin tissue substitute for efficient deep wound healing. Materials Science and Engineering C, 2019, 105, 110140.	3.8	46
43	Graphene-induced strengthening in spark plasma sintered tantalum carbideâ€“nanotube composite. Scripta Materialia, 2013, 68, 285-288.	2.6	44
44	Dry sliding wear behavior of cold sprayed aluminum amorphous/nanocrystalline alloy coatings. Surface and Coatings Technology, 2014, 238, 118-125.	2.2	44
45	Strong and transparent PMMA sheet reinforced with amine functionalized BN nanoflakes for UV-shielding application. Composites Part B: Engineering, 2019, 176, 107274.	5.9	41
46	Investigating the role of 3D network of carbon nanofillers in improving the mechanical properties of carbon fiber epoxy laminated composite. Composites Part A: Applied Science and Manufacturing, 2019, 126, 105601.	3.8	39
47	Study on sintering kinetics and activation energy of UO2 pellets using three different methods. Journal of Nuclear Materials, 2006, 357, 88-96.	1.3	37
48	Nanodynamic mechanical behavior of graphene nanoplatelet-reinforced tantalum carbide. Scripta Materialia, 2013, 69, 678-681.	2.6	37
49	The hydrophobicity of a lotus leaf: a nanomechanical and computational approach. Nanotechnology, 2009, 20, 305707.	1.3	36
50	Emergence of fluorescence in boron nitride nanoflakes and its application in bioimaging. RSC Advances, 2016, 6, 48025-48032.	1.7	36
51	Carbon nanotubes improve the adhesion strength of a ceramic splat to the steel substrate. Carbon, 2011, 49, 4340-4347.	5.4	34
52	Quantification of carbon nanotube induced adhesion of osteoblast on hydroxyapatite using nano-scratch technique. Nanotechnology, 2011, 22, 355703.	1.3	34
53	Solâ€“Gel Derived Hydroxyapatite Coating on Mg-3Zn Alloy for Orthopedic Application. Jom, 2015, 67, 702-712.	0.9	34
54	X-ray diffraction line profile analysis for defect study in Zr-2.5% Nb material. Bulletin of Materials Science, 2004, 27, 59-67.	0.8	32

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55	The nano-scratch behavior of biocompatible hydroxyapatite reinforced with aluminum oxide and carbon nanotubes. Jom, 2009, 61, 63-66.	0.9	32
56	Interfacial bonding characteristics between graphene and dielectric substrates. Nanotechnology, 2014, 25, 045707.	1.3	32
57	Effect of warm rolling and annealing on the mechanical properties of aluminum composite reinforced with boron nitride nanotubes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 710, 366-373.	2.6	30
58	Mechanical Integrity of Biodegradable Mgâ€“HA Composite During In Vitro Exposure. Journal of Materials Engineering and Performance, 2019, 28, 800-809.	1.2	30
59	Evaluating the effect of addition of nanodiamond on the synergistic effect of graphene-carbon nanotube hybrid on the mechanical properties of epoxy based composites. Polymer Testing, 2020, 81, 106274.	2.3	30
60	Thermally reduced graphene oxide film on soda lime glass as transparent conducting electrode. Surface and Coatings Technology, 2017, 309, 931-937.	2.2	29
61	The influence of bioactive hydroxyapatite shape and size on the mechanical and biodegradation behaviour of magnesium based composite. Ceramics International, 2020, 46, 27205-27218.	2.3	29
62	Surface modification of CNT reinforced UHMWPE composite for sustained drug delivery. Journal of Drug Delivery Science and Technology, 2019, 52, 748-759.	1.4	26
63	Anisotropically Conductive Biodegradable Scaffold with Coaxially Aligned Carbon Nanotubes for Directional Regeneration of Peripheral Nerves. ACS Applied Bio Materials, 2020, 3, 5796-5812.	2.3	26
64	Grain Growth Behavior of Aluminum Oxide Reinforced with Carbon Nanotube During Plasma Spraying and PostSpray Consolidation. International Journal of Applied Ceramic Technology, 2010, 7, 846-855.	1.1	24
65	Serrated yielding during nanoindentation of thermomechanically processed novel Mgâ€“9Liâ€“7Alâ€“1Sn and Mgâ€“9Liâ€“5Alâ€“3Snâ€“1Zn alloys. Journal Physics D: Applied Physics, 2013, 46, 145304.	1.3	24
66	Apatite formability of boron nitride nanotubes. Nanotechnology, 2011, 22, 205601.	1.3	22
67	Sustained drug release from surface modified UHMWPE for acetabular cup lining in total hip implant. Materials Science and Engineering C, 2017, 77, 649-661.	3.8	22
68	Mg-3Zn/HA Biodegradable Composites Synthesized via Spark Plasma Sintering for Temporary Orthopedic Implants. Journal of Materials Engineering and Performance, 2019, 28, 5702-5715.	1.2	22
69	Photocatalytic activity of spark plasma sintered TiO2â€“graphene nanoplatelet composite. Scripta Materialia, 2013, 68, 719-722.	2.6	21
70	Scratch-Induced Deformation Behavior of Cold-Sprayed Aluminum Amorphous/Nanocrystalline Coatings at Multiple Load Scales. Journal of Thermal Spray Technology, 2014, 23, 502-513.	1.6	21
71	Scratch induced deformation behavior of hafnium based bulk metallic glass at multiple load scales. Journal of Non-Crystalline Solids, 2015, 410, 118-126.	1.5	21
72	Functionally gradient magnesium-based composite for temporary orthopaedic implant with improved corrosion resistance and osteogenic properties. Biomedical Materials (Bristol), 2021, 16, 015017.	1.7	21

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73	Au nanoparticle-decorated aragonite microdumbbells for enhanced antibacterial and anticancer activities. Materials Science and Engineering C, 2019, 103, 109734.	3.8	20
74	In Vitro Biodegradation and Biocompatibility of Mgâ€“HA-Based Composites for Orthopaedic Applications: A Review. Journal of the Indian Institute of Science, 2019, 99, 303-327.	0.9	19
75	Surface Modified Metallic Orthopedic Implant for Sustained Drug Release and Osteocompatibility. ACS Applied Bio Materials, 2019, 2, 4181-4192.	2.3	19
76	Aligned carbon nanotube containing scaffolds for neural tissue regeneration. Neural Regeneration Research, 2016, 11, 1062.	1.6	19
77	Temperature-time dependent transmittance, sheet resistance and bonding energy of reduced graphene oxide on soda lime glass. Applied Surface Science, 2017, 425, 558-563.	3.1	18
78	Nanohardness and Youngâ€™s modulus of nanopolycrystalline diamond. Scripta Materialia, 2011, 64, 1019-1022.	2.6	17
79	The Tribological Behavior of Plasma-Sprayed Al-Si Composite Coatings Reinforced with Nanodiamond. Jom, 2012, 64, 702-708.	0.9	17
80	Evaluating initial unloading stiffness from elastic work-of-indentation measured in a nanoindentation experiment. Journal of Materials Research, 2013, 28, 789-797.	1.2	17
81	Microstructure dependent elastic modulus variation in NiTi shape memory alloy. Journal of Alloys and Compounds, 2015, 633, 71-74.	2.8	17
82	Decellularized xenogenic cartilage extracellular matrix (ECM) scaffolds for the reconstruction of osteochondral defects in rabbits. Journal of Materials Chemistry B, 2021, 9, 4873-4894.	2.9	16
83	A novel energy-based method to evaluate indentation modulus and hardness of cementitious materials from nanoindentation loadâ€“displacement data. Materials and Structures/Materiaux Et Constructions, 2015, 48, 2915-2927.	1.3	15
84	Quantifying nanodiamonds assisted exfoliation of graphene and its effect on toughening behaviour of composite structure. Composites Part A: Applied Science and Manufacturing, 2020, 132, 105840.	3.8	14
85	Effect of Alumina Dispersion on Microstructural and Nanomechanical Properties of Pulse Electrodeposited Nickelâ€“Alumina Composite Coatings. Journal of Materials Science and Technology, 2014, 30, 808-813.	5.6	13
86	Biocompatibility of ultrafine grained zircaloy-2 produced by cryorolling for medical applications. Materials Science and Engineering C, 2015, 46, 309-315.	3.8	13
87	Synthesis and evaluation of magnesium/co-precipitated hydroxyapatite based composite for biomedical application. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 118, 104460.	1.5	13
88	Comparative study on the efficacy of the UHMWPE surface modification by chemical etching and electrostatic spraying method for drug release by orthopedic implants. Materials Science and Engineering C, 2019, 105, 110117.	3.8	12
89	Single unit functionally graded bioresorbable electrospun scaffold for scar-free full-thickness skin wound healing. , 2022, 139, 212980.		12
90	Synthesis of Boron Nitride Nanotubes and Boron Nitride Nanoflakes with Potential Application in Bioimaging. Materials Today: Proceedings, 2018, 5, 16756-16762.	0.9	11

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91	Differentialin vitrodegradation and protein adhesion behaviour of spark plasma sintering fabricated magnesium-based temporary orthopaedic implant in serum and simulated body fluid. Biomedical Materials (Bristol), 2020, 15, 015006.	1.7	11
92	Investigation of crystallinity, mechanical properties, fracture toughness and cell proliferation in plasma sprayed graphene nano platelets reinforced hydroxyapatite coating. Materials Research Express, 2020, 7, 015415.	0.8	11
93	Spatial distribution of nanodiamond and its effect on mechanical behaviour of epoxy based composite using 2D modulus mapping. Mechanics of Materials, 2019, 135, 114-128.	1.7	10
94	X-ray measurement of near surface residual stress in textured cold-worked stress-relieved Zrâ€“2.5%Nb pressure tube material. Journal of Nuclear Materials, 2002, 303, 147-155.	1.3	9
95	Protein adsorption and biodegradation behaviour of Mgâ€“3Zn/HA for biomedical application. Nanomaterials and Energy, 2019, 8, 23-32.	0.1	9
96	Assessment of biomechanical stability and formulation of a statistical model on magnesium based composite in two different milieus. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 111, 103980.	1.5	9
97	Promises of Functionally Graded Material in Bone Regeneration: Current Trends, Properties, and Challenges. ACS Biomaterials Science and Engineering, 2022, 8, 1001-1027.	2.6	9
98	Effect of Prior Î²Processing on Superplasticity of (Î±Â+ÂÎ²) Thermomechanically Treated Tiâ€“6Alâ€“4V Alloy. Materials and Manufacturing Processes, 2003, 18, 621-635.	2.7	8
99	Dry Sliding Wear Behavior of Hafnium-Based Bulk Metallic Glass at Room and Elevated Temperatures. Journal of Materials Engineering and Performance, 2016, 25, 3931-3937.	1.2	8
100	Copper catalyzed growth of hexagonal boron nitride nanotubes on a tungsten substrate. CrystEngComm, 2018, 20, 2713-2719.	1.3	8
101	Development and Characterization of Acellular Caprine Choncal Cartilage Matrix for Tissue Engineering Applications. Cartilage, 2021, 13, 1292S-1308S.	1.4	7
102	Texture evolution in two phase Zr â€“ 2.5 wt-%Nb through modified route. Materials Science and Technology, 2004, 20, 1281-1289.	0.8	6
103	Quantifying bonding strength of CuO nanotubes with substrate using the nano-scratch technique. Nanotechnology, 2015, 26, 305701.	1.3	6
104	Analysis of neural cell behaviour on anisotropic electrically conductive polymeric biodegradable scaffolds reinforced with carbon nanotubes. Medical Devices & Sensors, 2021, 4, e10152.	2.7	6
105	Nutraceutical regulation of miRNAs involved in neurodegenerative diseases and brain cancers. Heliyon, 2021, 7, e07262.	1.4	6
106	Assessment of Interfacial Interaction in Graphene Nanoplatelets and Carbon Fiber-Reinforced Epoxy Matrix Multiscale Composites and Its Effect on Mechanical Behavior. Journal of Materials Engineering and Performance, 2021, 30, 8913-8925.	1.2	6
107	Brassica oleracea Extracts Prevent Hyperglycemia in Type 2 Diabetes Mellitus. Preventive Nutrition and Food Science, 2022, 27, 50-62.	0.7	6
108	Assessment of protein adhesion behaviour and biocompatibility of magnesium/Co-substituted HA-based composites for orthopaedic application. International Journal of Biological Macromolecules, 2022, 208, 707-719.	3.6	5

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109	Enhanced neurogenic differentiation on anisotropically conductive carbon nanotube reinforced polycaprolactone-collagen scaffold by applying direct coupling electrical stimulation. International Journal of Biological Macromolecules, 2022, 218, 269-284.	3.6	4
110	The Evolving Neural Tissue Engineering Landscape of India. ACS Applied Bio Materials, 2019, 2, 5446-5459.	2.3	3
111	Biocompatibility and biodegradability evaluation of magnesiumâ€based intramedullary bone implants in avian model. Journal of Biomedical Materials Research - Part A, 2021, 109, 1479-1489.	2.1	3
112	Polymer Matrix-Based Carbon Nanocomposites for Neural Tissue Engineering. , 2022, 7, 93-114.		3
113	Multilayered porous hydroxyapatite coating on Ti6Al4V implant with enhanced drug delivery and antimicrobial properties. Journal of Drug Delivery Science and Technology, 2022, 70, 103155.	1.4	3
114	Electrophoretically deposited graphene oxide with modified substrateâ€“suspension interface for tailored field emission response. Journal of Applied Electrochemistry, 2021, 51, 197-207.	1.5	2
115	Effect of multiâ€axial hot forging process on mechanical, and corrosion resistance behavior of <scp>Mgâ€3Zn</scp> alloy for temporary orthopedic implants. Engineering Reports, 2021, 3, e12286.	0.9	2
116	Atmospheric oxidation effect of siliconâ€“carbon nanotube anode on Li-ion battery performance. Nanomaterials and Energy, 2015, 4, 153-158.	0.1	1
117	Measurement of bonding strength of thermally reduced graphene oxide with soda lime glass using nanoscratch technique. Materials Today: Proceedings, 2018, 5, 16338-16345.	0.9	1
118	Recent Trends in Electrospinning for the Preparation of Ultrathin Plastic and Polymer Fibers for Bio-Medical Applications. , 2022, , 810-835.		1
119	Medical Applications of Hierarchical Composites. , 2015, , 203-237.		1
120	Distinct Levels of Adhesion Energy of In-Situ Grown CuO Nanostructures. Journal of Nanoscience and Nanotechnology, 2020, 20, 3527-3534.	0.9	0