Chengde Gao

List of Publications by Year
in descending order

126 papers	7,529 citations	94269 37 h-index	54797 84 g-index
126 all docs	126 docs citations	126 times ranked	12391 citing authors

#	Article	IF	Citations
1	Hydroxyapatite Whisker Reinforced 63s Glass Scaffolds for Bone Tissue Engineering. BioMed Research International, 2015, 2015, 1-8.	0.9	2,383
2	Bone biomaterials and interactions with stem cells. Bone Research, 2017, 5, 17059.	5.4	503
3	A Multimaterial Scaffold With Tunable Properties: Toward Bone Tissue Repair. Advanced Science, 2018, 5, 1700817.	5.6	264
4	Current Progress in Bioactive Ceramic Scaffolds for Bone Repair and Regeneration. International Journal of Molecular Sciences, 2014, 15, 4714-4732.	1.8	243
5	Carbon nanotube, graphene and boron nitride nanotube reinforced bioactive ceramics for bone repair. Acta Biomaterialia, 2017, 61, 1-20.	4.1	170
6	Biodegradable metallic bone implants. Materials Chemistry Frontiers, 2019, 3, 544-562.	3.2	150
7	Enhancement mechanisms of graphene in nano-58S bioactive glass scaffold: mechanical and biological performance. Scientific Reports, 2014, 4, 4712.	1.6	125
8	A novel two-step sintering for nano-hydroxyapatite scaffolds for bone tissue engineering. Scientific Reports, 2014, 4, 5599.	1.6	124
9	3D honeycomb nanostructure-encapsulated magnesium alloys with superior corrosion resistance and mechanical properties. Composites Part B: Engineering, 2019, 162, 611-620.	5.9	124
10	Additive manufacturing of bone scaffolds. International Journal of Bioprinting, 2018, 5, 148.	1.7	120
11	Molybdenum disulfide nanosheets embedded with nanodiamond particles: co-dispersion nanostructures as reinforcements for polymer scaffolds. Applied Materials Today, 2019, 17, 216-226.	2.3	116
12	Structure and properties of nano-hydroxypatite scaffolds for bone tissue engineering with a selective laser sintering system. Nanotechnology, 2011, 22, 285703.	1.3	115
13	A combined strategy to enhance the properties of Zn by laser rapid solidification and laser alloying. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 82, 51-60.	1.5	103
14	A magnetic micro-environment in scaffolds for stimulating bone regeneration. Materials and Design, 2020, 185, 108275.	3.3	101
15	Characterizations and interfacial reinforcement mechanisms of multicomponent biopolymer based scaffold. Materials Science and Engineering C, 2019, 100, 809-825.	3.8	90
16	Graphene oxide reinforced poly(vinyl alcohol): nanocomposite scaffolds for tissue engineering applications. RSC Advances, 2015, 5, 25416-25423.	1.7	82
17	Microstructure, biodegradation, antibacterial and mechanical properties of ZK60-Cu alloys prepared by selective laser melting technique. Journal of Materials Science and Technology, 2018, 34, 1944-1952.	5.6	80
18	Nano-SiC reinforced Zn biocomposites prepared via laser melting: Microstructure, mechanical properties and biodegradability. Journal of Materials Science and Technology, 2019, 35, 2608-2617.	5.6	80

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19	MicroRNAs regulate signaling pathways in osteogenic differentiation of mesenchymal stem cells (Review). Molecular Medicine Reports, 2016, 14, 623-629.	1.1	79
20	Interfacial reinforcement in bioceramic/biopolymer composite bone scaffold: The role of coupling agent. Colloids and Surfaces B: Biointerfaces, 2020, 193, 111083.	2.5	76
21	Highly biodegradable and bioactive Fe-Pd-bredigite biocomposites prepared by selective laser melting. Journal of Advanced Research, 2019, 20, 91-104.	4.4	75
22	Graphene oxide as an interface phase between polyetheretherketone and hydroxyapatite for tissue engineering scaffolds. Scientific Reports, 2017, 7, 46604.	1.6	73
23	TiO₂-Induced In Situ Reaction in Graphene Oxide-Reinforced AZ61 Biocomposites to Enhance the Interfacial Bonding. ACS Applied Materials & Interfaces, 2020, 12, 23464-23473.	4.0	69
24	Regulating Degradation Behavior by Incorporating Mesoporous Silica for Mg Bone Implants. ACS Biomaterials Science and Engineering, 2018, 4, 1046-1054.	2.6	67
25	System development, formability quality and microstructure evolution of selective laser-melted magnesium. Virtual and Physical Prototyping, 2016, 11, 173-181.	5.3	61
26	In Situ Generation of Hydroxyapatite on Biopolymer Particles for Fabrication of Bone Scaffolds Owning Bioactivity. ACS Applied Materials & Interfaces, 2020, 12, 46743-46755.	4.0	58
27	A combined nanostructure constructed by graphene and boron nitride nanotubes reinforces ceramic scaffolds. Chemical Engineering Journal, 2017, 313, 487-497.	6.6	57
28	Improved biodegradation resistance by grain refinement of novel antibacterial ZK30-Cu alloys produced via selective laser melting. Materials Letters, 2019, 237, 253-257.	1.3	57
29	Interfacial strengthening by reduced graphene oxide coated with MgO in biodegradable Mg composites. Materials and Design, 2020, 191, 108612.	3.3	57
30	Structural Design and Experimental Analysis of a Selective Laser Sintering System with Nano-Hydroxyapatite Powder. Journal of Biomedical Nanotechnology, 2010, 6, 370-374.	0.5	50
31	Selective laser melting of Znâ€"Ag alloys for bone repair: microstructure, mechanical properties and degradation behaviour. Virtual and Physical Prototyping, 2018, 13, 146-154.	5.3	49
32	Formation and characteristic corrosion behavior of alternately lamellar arranged Î± and Î² in as-cast AZ91 Mg alloy. Journal of Alloys and Compounds, 2019, 770, 549-558.	2.8	49
33	A nano-sandwich construct built with graphene nanosheets and carbon nanotubes enhances mechanical properties of hydroxyapatite–polyetheretherketone scaffolds. International Journal of Nanomedicine, 2016, Volume 11, 3487-3500.	3.3	46
34	Dual alloying improves the corrosion resistance of biodegradable Mg alloys prepared by selective laser melting. Journal of Magnesium and Alloys, 2021, 9, 305-316.	5.5	45
35	Magnetostrictive alloys: Promising materials for biomedical applications. Bioactive Materials, 2022, 8, 177-195.	8.6	44
36	Calcium silicate ceramic scaffolds toughened with hydroxyapatite whiskers for bone tissue engineering. Materials Characterization, 2014, 97, 47-56.	1.9	42

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37	The microstructure, mechanical properties and degradation behavior of laser-melted Mg Sn alloys. Journal of Alloys and Compounds, 2016, 687, 109-114.	2.8	42
38	Enhanced sintering ability of biphasic calcium phosphate by polymers used for bone scaffold fabrication. Materials Science and Engineering C, 2013, 33, 3802-3810.	3.8	41
39	Microstructure Evolution and Biodegradation Behavior of Laser Rapid Solidified Mgâ€"Alâ€"Zn Alloy. Metals, 2017, 7, 105.	1.0	37
40	Rare Earth Element Yttrium Modified Mg-Al-Zn Alloy: Microstructure, Degradation Properties and Hardness. Materials, 2017, 10, 477.	1.3	37
41	Toughening and strengthening mechanisms of porous akermanite scaffolds reinforced with nano-titania. RSC Advances, 2015, 5, 3498-3507.	1.7	36
42	Biodegradation Resistance and Bioactivity of Hydroxyapatite Enhanced Mg-Zn Composites via Selective Laser Melting. Materials, 2017, 10, 307.	1.3	36
43	Graphene-reinforced mechanical properties of calcium silicate scaffolds by laser sintering. RSC Advances, 2014, 4, 12782-12788.	1.7	35
44	Dual-functional scaffolds of poly(L-lactic acid)/nanohydroxyapatite encapsulated with metformin: Simultaneous enhancement of bone repair and bone tumor inhibition. Materials Science and Engineering C, 2021, 120, 111592.	3.8	33
45	Pre-oxidation induced in situ interface strengthening in biodegradable Zn/nano-SiC composites prepared by selective laser melting. Journal of Advanced Research, 2022, 38, 143-155.	4.4	33
46	Characterization and Bioactivity Evaluation of (Polyetheretherketone/Polyglycolicacid)-Hydroyapatite Scaffolds for Tissue Regeneration. Materials, 2016, 9, 934.	1.3	32
47	MnO2 catalysis of oxygen reduction to accelerate the degradation of Fe-C composites for biomedical applications. Corrosion Science, 2020, 170, 108679.	3.0	31
48	Biodegradation mechanisms of selective laser-melted Mgâ€"<i>x</i>Alâ€"Zn alloy: grain size and intermetallic phase. Virtual and Physical Prototyping, 2018, 13, 59-69.	5.3	30
49	Physical stimulations and their osteogenesis-inducing mechanisms. International Journal of Bioprinting, 2018, 4, 138.	1.7	30
50	Nano SiO2 and MgO Improve the Properties of Porous Î²-TCP Scaffolds via Advanced Manufacturing Technology. International Journal of Molecular Sciences, 2015, 16, 6818-6830.	1.8	29
51	Antibacterial Capability, Physicochemical Properties, and Biocompatibility of nTiO2 Incorporated Polymeric Scaffolds. Polymers, 2018, 10, 328.	2.0	29
52	Corrosion and antibacterial performance of novel selective-laser-melted (SLMed) Ti-xCu biomedical alloys. Journal of Alloys and Compounds, 2021, 864, 158415.	2.8	29
53	Akermanite scaffolds reinforced with boron nitride nanosheets in bone tissue engineering. Journal of Materials Science: Materials in Medicine, 2015, 26, 188.	1.7	28
54	Calcium Silicate Improved Bioactivity and Mechanical Properties of Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) Scaffolds. Polymers, 2017, 9, 175.	2.0	28

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55	Influence of graphene oxide (GO) on microstructure and biodegradation of ZK30-xGO composites prepared by selective laser melting. Journal of Magnesium and Alloys, 2020, 8, 952-962.	5.5	28
56	Correlation between properties and microstructure of laser sintered porous<i>Î²</i>-tricalcium phosphate bone scaffolds. Science and Technology of Advanced Materials, 2013, 14, 055002.	2.8	27
57	Polyetheretherketone/poly (glycolic acid) blend scaffolds with biodegradable properties. Journal of Biomaterials Science, Polymer Edition, 2016, 27, 1434-1446.	1.9	27
58	A space network structure constructed by tetraneedlelike ZnO whiskers supporting boron nitride nanosheets to enhance comprehensive properties of poly(L-lacti acid) scaffolds. Scientific Reports, 2016, 6, 33385.	1.6	25
59	Mechanical and structural characterization of diopside scaffolds reinforced with graphene. Journal of Alloys and Compounds, 2016, 655, 86-92.	2.8	25
60	Nd-induced honeycomb structure of intermetallic phase enhances the corrosion resistance of Mg alloys for bone implants. Journal of Materials Science: Materials in Medicine, 2017, 28, 130.	1.7	25
61	A Novel MgO-CaO-SiO2 System for Fabricating Bone Scaffolds with Improved Overall Performance. Materials, 2016, 9, 287.	1.3	24
62	Disperse magnetic sources constructed with functionalized Fe3O4 nanoparticles in poly- -lactic acid scaffolds. Polymer Testing, 2019, 76, 33-42.	2.3	24
63	Biosilicate scaffolds for bone regeneration: influence of introducing SrO. RSC Advances, 2017, 7, 21749-21757.	1.7	23
64	The microstructure evolution of nanohydroxapatite powder sintered for bone tissue engineering. Journal of Experimental Nanoscience, 2013, 8, 762-773.	1.3	22
65	Bioactivity Improvement of Forsterite-Based Scaffolds with nano-58S Bioactive Glass. Materials and Manufacturing Processes, 2014, 29, 877-884.	2.7	21
66	Microstructure Evolution and Mechanical Properties Improvement in Liquid-Phase-Sintered Hydroxyapatite by Laser Sintering. Materials, 2015, 8, 1162-1175.	1.3	21
67	An nMgO containing scaffold: Antibacterial activity, degradation properties and cell responses. International Journal of Bioprinting, 2018, 4, 120.	1.7	20
68	Functionalization of Calcium Sulfate/Bioglass Scaffolds with Zinc Oxide Whisker. Molecules, 2016, 21, 378.	1.7	19
69	Preparation and characterization of laser-melted Mgâ€“Snâ€“Zn alloys for biomedical application. Journal of Materials Science: Materials in Medicine, 2017, 28, 13.	1.7	19
70	A mesoporous silica composite scaffold: Cell behaviors, biomineralization and mechanical properties. Applied Surface Science, 2017, 423, 314-321.	3.1	19
71	Diopside modified porous polyglycolide scaffolds with improved properties. RSC Advances, 2015, 5, 54822-54829.	1.7	18
72	Boron Nitride Nanotubes Reinforce Tricalcium Phosphate Scaffolds and Promote the Osteogenic Differentiation of Mesenchymal Stem Cells. Journal of Biomedical Nanotechnology, 2016, 12, 934-947.	0.5	18

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73	Silane Modified Diopside for Improved Interfacial Adhesion and Bioactivity of Composite Scaffolds. Molecules, 2017, 22, 511.	1.7	18
74	Strong corrosion induced by carbon nanotubes to accelerate Fe biodegradation. Materials Science and Engineering C, 2019, 104, 109935.	3.8	18
75	Simulation of dynamic temperature field during selective laser sintering of ceramic powder. Mathematical and Computer Modelling of Dynamical Systems, 2013, 19, 1-11.	1.4	17
76	Mechanical Reinforcement of Diopside Bone Scaffolds with Carbon Nanotubes. International Journal of Molecular Sciences, 2014, 15, 19319-19329.	1.8	17
77	Microstructure, mechanical properties and in vitro bioactivity of akermanite scaffolds fabricated by laser sintering. Bio-Medical Materials and Engineering, 2014, 24, 2073-2080.	0.4	17
78	Mechanisms of tetraneedlelike ZnO whiskers reinforced forsterite/bioglass scaffolds. Journal of Alloys and Compounds, 2015, 636, 341-347.	2.8	17
79	Graphene Oxide Reinforced Iron Matrix Composite With Enhanced Biodegradation Rate Prepared by Selective Laser Melting. Advanced Engineering Materials, 2019, 21, 1900314.	1.6	17
80	Selective laser sintering of Î²-TCP/nano-58S composite scaffolds with improved mechanical properties. Materials and Design, 2015, 84, 395-401.	3.3	16
81	Ag-Introduced Antibacterial Ability and Corrosion Resistance for Bio-Mg Alloys. BioMed Research International, 2018, 2018, 1-13.	0.9	16
82	Advances in biocermets for bone implant applications. Bio-Design and Manufacturing, 2020, 3, 307-330.	3.9	16
83	Liquid Phase Sintered Ceramic Bone Scaffolds by Combined Laser and Furnace. International Journal of Molecular Sciences, 2014, 15, 14574-14590.	1.8	15
84	A bioactive glass nanocomposite scaffold toughed by multi-wall carbon nanotubes for tissue engineering. Journal of the Ceramic Society of Japan, 2015, 123, 485-491.	0.5	15
85	Calcium sulfate bone scaffolds with controllable porous structure by selective laser sintering. Journal of Porous Materials, 2015, 22, 1171-1178.	1.3	15
86	Tailoring properties of porous Poly (vinylidene fluoride) scaffold through nano-sized 58s bioactive glass. Journal of Biomaterials Science, Polymer Edition, 2016, 27, 97-109.	1.9	15
87	In Vitro Corrosion Resistance and Antibacterial Performance of Novel Feâ€“<i>x</i>Cu Biomedical Alloys Prepared by Selective Laser Melting. Advanced Engineering Materials, 2021, 23, 2001000.	1.6	15
88	Comparison of the biodegradation of ZK30 subjected to solid solution treating and selective laser melting. Journal of Materials Research and Technology, 2021, 10, 722-729.	2.6	15
89	A continuous net-like eutectic structure enhances the corrosion resistance of Mg alloys. International Journal of Bioprinting, 2019, 5, 207.	1.7	15
90	Enhanced Stability of Calcium Sulfate Scaffolds with 45S5 Bioglass for Bone Repair. Materials, 2015, 8, 7498-7510.	1.3	14

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91	Mechanical reinforcement of bioceramics scaffolds via fracture energy dissipation induced by sliding action of MoS2 nanoplatelets. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 75, 423-433.	1.5	14
92	Lanthanum-Containing Magnesium Alloy with Antitumor Function Based on Increased Reactive Oxygen Species. Applied Sciences (Switzerland), 2018, 8, 2109.	1.3	14
93	Fabricating the nanostructured surfaces of CaSiO3 scaffolds. Applied Surface Science, 2018, 455, 1150-1160.	3.1	14
94	Biodegradation, Antibacterial Performance, and Cytocompatibility of a Novel ZK30-Cu-Mn Biomedical Alloy Produced by Selective Laser Melting. International Journal of Bioprinting, 2020, 7, 300.	1.7	14
95	Enhanced osteoinductivity and corrosion resistance of dopamine/gelatin/rhBMP-2â€“coated Î²-TCP/Mg-Zn orthopedic implants: An in vitro and in vivo study. PLoS ONE, 2020, 15, e0228247.	1.1	13
96	Montmorillonite with unique interlayer space imparted polymer scaffolds with sustained release of Ag+. Ceramics International, 2019, 45, 11517-11526.	2.3	11
97	Rod-like Eutectic Structure in Biodegradable Znâ€“Alâ€“Sn Alloy Exhibiting Enhanced Mechanical Strength. ACS Biomaterials Science and Engineering, 2020, 6, 3821-3831.	2.6	11
98	Nanodiamond reinforced polyvinylidene fluoride/bioglass scaffolds for bone tissue engineering. Journal of Porous Materials, 2017, 24, 249-255.	1.3	10
99	Island-to-acicular alteration of second phase enhances the degradation resistance of biomedical AZ61 alloy. Journal of Alloys and Compounds, 2020, 835, 155397.	2.8	9
100	Preparation of micro/nanometer-sized porous surface structure of calcium phosphate scaffolds and the influence on biocompatibility. Journal of Materials Research, 2014, 29, 1144-1152.	1.2	8
101	Grain Growth Associates Mechanical Properties in Nano-Hydroxyapatite Bone Scaffolds. Journal of Nanoscience and Nanotechnology, 2013, 13, 5340-5345.	0.9	7
102	Improvement in degradability of 58s glass scaffolds by ZnO and Î²-TCP modification. Bioengineered, 2016, 7, 342-351.	1.4	7
103	Microstructure analysis in the coupling region of fiber coupler with a novel electrical micro-heater. Optical Fiber Technology, 2011, 17, 541-545.	1.4	6
104	Tunable Degradation Rate and Favorable Bioactivity of Porous Calcium Sulfate Scaffolds by Introducing Nano-Hydroxyapatite. Applied Sciences (Switzerland), 2016, 6, 411.	1.3	6
105	Refined Lamellar Eutectic in Biomedical Znâ€“Alâ€“Zr Alloys for Mechanical Reinforcement. Advanced Engineering Materials, 2019, 21, 1801322.	1.6	5
106	Effect of Alloying Mn by Selective Laser Melting on the Microstructure and Biodegradation Properties of Pure Mg. Metals, 2020, 10, 1527.	1.0	5
107	A dual redox system for enhancing the biodegradability of Fe-C-Cu composite scaffold. Colloids and Surfaces B: Biointerfaces, 2022, 213, 112431.	2.5	5
108	Performance improvement of optical fiber coupler with electric heating versus gas heating. Applied Optics, 2010, 49, 4514.	2.1	4

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109	DEVELOPMENT OF COMPLEX POROUS POLYVINYL ALCOHOL SCAFFOLDS: MICROSTRUCTURE, MECHANICAL, AND BIOLOGICAL EVALUATIONS. Journal of Mechanics in Medicine and Biology, 2013, 13, 1350034.	0.3	4
110	Silicon carbide whiskers reinforced akermanite scaffolds for tissue engineering. RSC Advances, 2014, 4, 36868.	1.7	4
111	Synergistic Effect of Carbon Nanotubes and Graphene on Diopside Scaffolds. BioMed Research International, 2016, 2016, 1-8.	0.9	4
112	In situ decomposition of Ti₂AlN promoted interfacial bonding in ZnAl-Ti₂AlN biocomposites for bone repair. Materials Research Express, 2020, 7, 025402.	0.8	4
113	A Continuous MgF 2 Network Structure Encapsulated Mg Alloy Prepared by Selective Laser Melting for Enhanced Biodegradation Resistance. Advanced Engineering Materials, 2021, 23, 2100389.	1.6	4
114	Microstructure, Mechanical, and Biological Properties of Porous Poly(vinylidene fluoride) Scaffolds Fabricated by Selective Laser Sintering. International Journal of Polymer Science, 2015, 2015, 1-9.	1.2	3
115	Development of bioceramic bone scaffolds by introducing triple liquid phases. Journal of Materials Research, 2016, 31, 3498-3505.	1.2	3
116	Mechanically Strong CaSiO3 Scaffolds Incorporating B2O3-ZnO Liquid Phase. Applied Sciences (Switzerland), 2017, 7, 387.	1.3	3
117	Uniform degradation mode and enhanced degradation resistance of Mg alloy via a long period stacking ordered phase in the grain interior. Materials Research Express, 2019, 6, 065406.	0.8	3
118	Mnâ€promoting formation of a longâ€period stackingâ€ordered phase in laserâ€melted Mg alloys to enhance degradation resistance. Materials and Corrosion - Werkstoffe Und Korrosion, 2020, 71, 553-563.	0.8	3
119	A 45S5 Bioactive Glass Scaffold Reinforced with ZnO and MgO. Journal of Biomaterials and Tissue Engineering, 2016, 6, 98-106.	0.0	3
120	Hydrolytic Expansion Induces Corrosion Propagation for Increased Fe Biodegradation. International Journal of Bioprinting, 2019, 6, 248.	1.7	3
121	Biodegradation, Antibacterial Performance, and Cytocompatibility of a Novel ZK30-Cu-Mn Biomedical Alloy Produced by Selective Laser Melting. International Journal of Bioprinting, 2021, 7, 300.	1.7	3
122	FABRICATION OPTIMIZATION OF NANOHYDROXYAPATITE ARTIFICIAL BONE SCAFFOLDS. Nano, 2012, 07, 1250015.	0.5	2
123	A multi-scale porous scaffold fabricated by a combined additive manufacturing and chemical etching process for bone tissue engineering. International Journal of Bioprinting, 2018, 4, 133.	1.7	2
124	Analysis of 3D Printed Diopside Scaffolds Properties for Tissue Engineering. Medziagotyra, 2015, 21, .	0.1	1
125	The Development of a Novel Fused Bi-Conical Taper Machine with an Electrical Resistance Micro-Heater. Advanced Science Letters, 2011, 4, 2032-2036.	0.2	1
126	Development of a Novel Double Liquid Phase for Sintering <I>Î²</I>-Tricalcium Phosphate Scaffold. Journal of Biomaterials and Tissue Engineering, 2016, 6, 788-797.	0.0	0