Er-Lin Zhang

List of Publications by Year
in descending order

112 papers	6,991 citations	61984 43 h-index	60623 81 g-index
112 all docs	112 docs citations	112 times ranked	4529 citing authors

#	Article	IF	Citations
1	In vivo corrosion behavior of Mg-Mn-Zn alloy for bone implant application. Journal of Biomedical Materials Research - Part A, 2007, 83A, 703-711.	4.0	462
2	In vitro and in vivo evaluation of the surface bioactivity of a calcium phosphate coated magnesium alloy. Biomaterials, 2009, 30, 1512-1523.	11.4	454
3	Microstructure, mechanical and corrosion properties and biocompatibility of Mgâ€“Znâ€“Mn alloys for biomedical application. Materials Science and Engineering C, 2009, 29, 987-993.	7.3	399
4	Antibacterial metals and alloys for potential biomedical implants. Bioactive Materials, 2021, 6, 2569-2612.	15.6	283
5	Microstructure, mechanical properties and bio-corrosion properties of Mgâ€“Znâ€“Mnâ€“Ca alloy for biomedical application. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 497, 111-118.	5.6	271
6	A new antibacterial titaniumâ€“copper sintered alloy: Preparation and antibacterial property. Materials Science and Engineering C, 2013, 33, 4280-4287.	7.3	247
7	Microstructure, mechanical properties and bio-corrosion properties of Mgâ€“Si(â€“Ca, Zn) alloy for biomedical applicationâ˜†. Acta Biomaterialia, 2010, 6, 1756-1762.	8.3	237
8	Effect of Cu content on the antibacterial activity of titaniumâ€“copper sintered alloys. Materials Science and Engineering C, 2014, 35, 392-400.	7.3	229
9	<i>In vivo</i> evaluation of biodegradable magnesium alloy bone implant in the first 6 months implantation. Journal of Biomedical Materials Research - Part A, 2009, 90A, 882-893.	4.0	226
10	Biocorrosion behavior of magnesium alloy in different simulated fluids for biomedical application. Materials Science and Engineering C, 2009, 29, 1691-1696.	7.3	212
11	InÂvitro corrosion behaviour of Mg alloys in a phosphate buffered solution for bone implant application. Journal of Materials Science: Materials in Medicine, 2008, 19, 1017-1025.	3.6	176
12	Effect of the existing form of Cu element on the mechanical properties, bio-corrosion and antibacterial properties of Ti-Cu alloys for biomedical application. Materials Science and Engineering C, 2016, 69, 1210-1221.	7.3	174
13	Microstructure, mechanical properties and corrosion properties of Mgâ€“Znâ€“Y alloys with low Zn content. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 488, 102-111.	5.6	142
14	Indirectly extruded biodegradable Zn-0.05wt%Mg alloy with improved strength and ductility: In vitro and in vivo studies. Journal of Materials Science and Technology, 2018, 34, 1618-1627.	10.7	137
15	Effects of Zn on the microstructure, mechanical property and bio-corrosion property of Mgâ€“3Ca alloys for biomedical application. Materials Chemistry and Physics, 2011, 125, 568-575.	4.0	132
16	Effect of Zn on mechanical property and corrosion property of extruded Mg-Zn-Mn alloy. Transactions of Nonferrous Metals Society of China, 2008, 18, 763-768.	4.2	126
17	Formation by ion plating of Ti-coating on pure Mg for biomedical applications. Scripta Materialia, 2005, 53, 523-527.	5.2	125
18	Biocorrosion properties and blood and cell compatibility of pure iron as a biodegradable biomaterial. Journal of Materials Science: Materials in Medicine, 2010, 21, 2151-2163.	3.6	122

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19	Influence of Cu content on the cell biocompatibility of Tiâ€“Cu sintered alloys. Materials Science and Engineering C, 2015, 46, 148-157.	7.3	116
20	Effect of Y on the bio-corrosion behavior of extruded Mgâ€“Znâ€“Mn alloy in Hank's solution. Materials Science and Engineering C, 2010, 30, 167-174.	7.3	112
21	Role of Cu element in biomedical metal alloy design. Rare Metals, 2019, 38, 476-494.	7.1	110
22	Effect of nano/micro-Ag compound particles on the bio-corrosion, antibacterial properties and cell biocompatibility of Ti-Ag alloys. Materials Science and Engineering C, 2017, 75, 906-917.	7.3	102
23	Phosphating treatment and corrosion properties of Mgâ€“Mnâ€“Zn alloy for biomedical application. Journal of Materials Science: Materials in Medicine, 2009, 20, 859-867.	3.6	98
24	Microstructure, mechanical properties, bio-corrosion properties and antibacterial properties of Tiâ€“Ag sintered alloys. Materials Science and Engineering C, 2016, 62, 350-360.	7.3	97
25	Antibacterial activities and biocompatibilities of Ti-Ag alloys prepared by spark plasma sintering and acid etching. Materials Science and Engineering C, 2018, 92, 121-131.	7.3	83
26	On the compressive behaviour of sintered porous coppers with low to medium porositiesâ€"Part I: Experimental study. International Journal of Mechanical Sciences, 2005, 47, 744-756.	6.7	66
27	A new antibacterial Co-Cr-Mo-Cu alloy: Preparation, biocorrosion, mechanical and antibacterial property. Materials Science and Engineering C, 2016, 69, 134-143.	7.3	66
28	Optimization of mechanical properties, biocorrosion properties and antibacterial properties of as-cast Tiâ€“Cu alloys. Biomedical Materials (Bristol), 2016, 11, 065001.	3.3	66
29	The antibacterial properties and biocompatibility of a Tiâ€“Cu sintered alloy for biomedical application. Biomedical Materials (Bristol), 2014, 9, 025013.	3.3	64
30	Porous titanium and silicon-substituted hydroxyapatite biomodification prepared by a biomimetic process: Characterization and in vivo evaluation. Acta Biomaterialia, 2009, 5, 1732-1741.	8.3	61
31	A novel biomedical titanium alloy with high antibacterial property and low elastic modulus. Journal of Materials Science and Technology, 2021, 81, 13-25.	10.7	61
32	In vivo antibacterial property of Ti-Cu sintered alloy implant. Materials Science and Engineering C, 2019, 100, 38-47.	7.3	59
33	What controls the antibacterial activity of Ti-Ag alloy, Ag ion or Ti2Ag particles?. Materials Science and Engineering C, 2020, 109, 110548.	7.3	59
34	Preparation and characterization of silicon-substituted hydroxyapatite coating by a biomimetic process on titanium substrate. Surface and Coatings Technology, 2009, 203, 1075-1080.	4.8	57
35	Effect of extrusion processing on the microstructure, mechanical properties, biocorrosion properties and antibacterial properties of Ti-Cu sintered alloys. Materials Science and Engineering C, 2016, 69, 760-768.	7.3	57
36	Effect of iron content on the corrosion of pure magnesium: Critical factor for iron tolerance limit. Corrosion Science, 2018, 139, 421-429.	6.6	56

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37	Microstructure, corrosion properties and bio-compatibility of calcium zinc phosphate coating on pure iron for biomedical application. Materials Science and Engineering C, 2014, 34, 201-206.	7.3	55
38	Optimization of mechanical properties, biocorrosion properties and antibacterial properties of wrought Ti-3Cu alloy by heat treatment. Bioactive Materials, 2018, 3, 28-38.	15.6	55
39	Microstructure and mechanical behaviour of semi-solid die-casting AZ91D magnesium alloy. Materials Letters, 2007, 61, 2333-2337.	2.6	53
40	Preparation, microstructure and mechanical properties of porous titanium sintered by Ti fibres. Journal of Materials Science: Materials in Medicine, 2008, 19, 401-405.	3.6	49
41	Effect of ultrasonic micro-arc oxidation on the antibacterial properties and cell biocompatibility of Ti-Cu alloy for biomedical application. Materials Science and Engineering C, 2020, 115, 110921.	7.3	48
42	Surface microstructure and cell compatibility of calcium silicate and calcium phosphate composite coatings on Mgâ€“Znâ€“Mnâ€“Ca alloys for biomedical application. Colloids and Surfaces B: Biointerfaces, 2011, 83, 96-102.	5.0	47
43	Surface microstructure and cell biocompatibility of silicon-substituted hydroxyapatite coating on titanium substrate prepared by a biomimetic process. Materials Science and Engineering C, 2009, 29, 298-305.	7.3	44
44	Effect of in situ TiB short fibre on oxidation behavior of Tiâ€“6Alâ€“1.2B alloy. Scripta Materialia, 2002, 46, 811-816.	5.2	42
45	Anti-bacterium influenced corrosion effect of antibacterial Ti-3Cu alloy in Staphylococcus aureus suspension for biomedical application. Materials Science and Engineering C, 2019, 94, 376-384.	7.3	37
46	On the compressive behavior of sintered porous coppers with low-to-medium porositiesâ€"Part II: Preparation and microstructure. International Journal of Mechanical Sciences, 2008, 50, 550-558.	6.7	36
47	Improvement in antibacterial properties and cytocompatibility of titanium by fluorine and oxygen dual plasma-based surface modification. Applied Surface Science, 2019, 463, 261-274.	6.1	35
48	A study on the kinetic process of reaction synthesis of TiC: Part I. Experimental research and theoretical model. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 1147-1151.	2.2	32
49	Microstructure and corrosion resistance of ultrasonic micro-arc oxidation biocoatings on magnesium alloy. Journal of Advanced Ceramics, 2013, 2, 227-234.	17.4	31
50	The anti-bacterial activity of titanium-copper sintered alloy against <i>Porphyromonas gingivalis</i> <i>in vitro </i>. Dental Materials Journal, 2016, 35, 659-667.	1.8	31
51	Effect of Ag on cathodic activation and corrosion behaviour of Mg-Mn-Ag alloys. Corrosion Science, 2021, 185, 109408.	6.6	31
52	Effect of Zn on the microstructure and mechanical properties of Mgâ€“Si alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 3195-3199.	5.6	29
53	Mechanism of Mn on inhibiting Fe-caused magnesium corrosion. Journal of Magnesium and Alloys, 2021, 9, 676-685.	11.9	29
54	A nano-structured TiO2/CuO/Cu2O coating on Ti-Cu alloy with dual function of antibacterial ability and osteogenic activity. Journal of Materials Science and Technology, 2022, 97, 201-212.	10.7	29

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55	Surface bio-modification of poly(hydroxybutyrate-co-hydroxyhexanoate) and its aging effect. Colloids and Surfaces B: Biointerfaces, 2009, 73, 302-307.	5.0	28
56	Biocompatibility of antibacterial Tiâ€“Cu sintered alloy: in vivo bone response. Journal of Materials Science: Materials in Medicine, 2015, 26, 265.	3.6	28
57	Influence of Dy in solid solution on the degradation behavior of binary Mg-Dy alloys in cell culture medium. Materials Science and Engineering C, 2017, 75, 1351-1358.	7.3	28
58	Preparation and microstructure of in situ particle reinforced titanium matrix alloy. Journal of Materials Processing Technology, 2002, 125-126, 103-109.	6.3	26
59	Antibacterial effect of Ti Ag alloy motivated by Ag-containing phases. Materials Science and Engineering C, 2021, 128, 112266.	7.3	25
60	In vitro blood compatibility of poly (hydroxybutyrate-co-hydroxyhexanoate) and the influence of surface modification by alkali treatment. Materials Science and Engineering C, 2010, 30, 369-375.	7.3	24
61	Development of a low elastic modulus and antibacterial Ti-13Nb-13Zr-5Cu titanium alloy by microstructure controlling. Materials Science and Engineering C, 2021, 126, 112116.	7.3	23
62	Oxidation behavior of in situ TiB short fibre reinforced Ti-6Al-1.2B alloy in air. Journal of Materials Science, 2002, 37, 4063-4071.	3.7	21
63	Effect of surface treatments on the surface morphology, corrosion property, and antibacterial property of Tiâ€“10Cu sintered alloy. Biomedical Materials (Bristol), 2015, 10, 045009.	3.3	20
64	Blood compatibility of a ferulic acid (FA)-eluting PHBHHx system for biodegradable magnesium stent application. Materials Science and Engineering C, 2015, 52, 37-45.	7.3	20
65	Biocorrosion properties of antibacterial Tiâ€“10Cu sintered alloy in several simulated biological solutions. Journal of Materials Science: Materials in Medicine, 2015, 26, 142.	3.6	19
66	Microstructural characterization and in vitro biological performances of Ag, Zn co-incorporated TiO2 coating. Ceramics International, 2020, 46, 29160-29172.	4.8	19
67	Enhancement of Corrosion Resistance and Biological Performances of Cu-Incorporated Hydroxyapatite/TiO₂ Coating by Adjusting Cu Chemical Configuration and Hydroxyapatite Contents. ACS Applied Bio Materials, 2021, 4, 903-917.	4.6	19
68	Construction of a TiO2/Cu2O multifunctional coating on Ti-Cu alloy and its influence on the cell compatibility and antibacterial properties. Surface and Coatings Technology, 2021, 421, 127438.	4.8	19
69	Design and preparation of a biomedical titanium alloy with low elastic modulus and high antibacterial property based on Ti-Mo-Ag system. Journal of Alloys and Compounds, 2022, 908, 164639.	5.5	19
70	Comparison study on the solution-based surface biomodification of titanium: Surface characteristics and cell biocompatibility. Surface and Coatings Technology, 2017, 329, 109-119.	4.8	18
71	Biocorrosion property and cytocompatibility of calcium phosphate coated Mg alloy. Transactions of Nonferrous Metals Society of China, 2012, 22, 2014-2020.	4.2	17
72	Hot deformation behavior of an antibacterial Coâ€“29Crâ€“6Moâ€“1.8Cu alloy and its effect on mechanical property and corrosion resistance. Journal of Materials Science and Technology, 2018, 34, 523-533.	10.7	17

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73	Effect of Cu on Martensite Transformation of CoCrMo alloy for biomedical application. Journal of Materials Science and Technology, 2020, 52, 127-135.	10.7	17
74	Biocorrosion properties of Tiâ€“3Cu alloy in F ion-containing solution and acidic solution and biocompatibility. Rare Metals, 2019, 38, 503-511.	7.1	16
75	Ag distribution and corrosion behaviour of the plasma electrolytic oxidized antibacterial Mg-Ag alloy. Electrochimica Acta, 2022, 411, 140089.	5.2	16
76	Improvement in antibacterial ability and cell cytotoxicity of Tiâ€“Cu alloy by anodic oxidation. Rare Metals, 2022, 41, 594-609.	7.1	15
77	Enhanced antibacterial activity of Ti-Cu alloy by selective acid etching. Surface and Coatings Technology, 2021, 421, 127478.	4.8	15
78	Optimization of mechanical and antibacterial properties of Ti-3wt%Cu alloy through cold rolling and annealing. Rare Metals, 2022, 41, 610-620.	7.1	15
79	PEO coating on Mg-Ag alloy: The incorporation and release of Ag species. Journal of Magnesium and Alloys, 2023, 11, 2182-2195.	11.9	15
80	An unprecedented Agâ€“pipemidic acid complex with helical structure: Synthesis, structure and interaction with CT-DNA. Journal of Molecular Structure, 2013, 1045, 29-34.	3.6	14
81	Novel CoCrWNi alloys with Cu addition: Microstructure, mechanical properties, corrosion properties and biocompatibility. Journal of Alloys and Compounds, 2020, 824, 153924.	5.5	14
82	Temperature dependence of morphology of TiC reinforcement in in situ Ti-6Al/TiC composites. Journal of Materials Science Letters, 2001, 20, 1063-1065.	0.5	12
83	Degassing of magnesium alloy by rotating impeller degasser: Part 1 â€“ Mathematical modelling. Materials Science and Technology, 2008, 24, 1304-1308.	1.6	12
84	A novel Ti-Au alloy with strong antibacterial properties and excellent biocompatibility for biomedical application. Materials Science and Engineering C, 2022, 133, 112653.	7.3	12
85	An antibacterial mechanism of titanium alloy based on micro-area potential difference induced reactive oxygen species. Journal of Materials Science and Technology, 2022, 119, 75-86.	10.7	12
86	Degassing of magnesium alloy by rotating impeller degasser Part 2 â€“ effect on microstructure and mechanical properties. Materials Science and Technology, 2010, 26, 1253-1258.	1.6	11
87	Antibacterial ability and biocompatibility of fluorinated titanium by plasma-based surface modification. Rare Metals, 2022, 41, 689-699.	7.1	11
88	The synergistic effect of Ag and ZnO on the microstructure, corrosion resistance and in vitro biological performance of titania coating. Surface and Coatings Technology, 2021, 426, 127798.	4.8	11
89	Two metal-pipemidic acid complexes modifying Keggin polyoxometalates. Journal of Coordination Chemistry, 2013, 66, 977-985.	2.2	10
90	Effect of fluorination/oxidation level of nano-structured titanium on the behaviors of bacteria and osteoblasts. Applied Surface Science, 2020, 502, 144077.	6.1	10

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91	The formation mechanism and biocorrosion property of CaSiO₃/CaHPO₄ Â·2H₂O composite conversion coating on the extruded Mgâ€Znâ€Ca alloy for bone implant applicationÂ·. Surface and Interface Analysis, 2011, 43, 791-794.	1.8	9
92	A potential strategy for in-stent restenosis: Inhibition of migration and proliferation of vascular smooth muscle cells by Cu ion. Materials Science and Engineering C, 2020, 115, 111090.	7.3	9
93	Achieving ultra-fine grains in AZ61 Mg alloy by friction stir processing. International Journal of Materials Research, 2008, 99, 1375-1378.	0.3	8
94	Tribocorrosion Behavior of Tiâ€"Cu Alloy in Hankâ€™s Solution for Biomedical Application. Journal of Bio- and Tribo-Corrosion, 2018, 4, 1.	2.6	8
95	Antibacterial activities and cell responses of Tiâ€"Ag alloys with a hybrid micro- to nanostructured surface. Journal of Biomaterials Applications, 2020, 34, 1368-1380.	2.4	8
96	Co-Cr-Mo-Cu alloys for clinical implants with osteogenic effect by increasing bone induction, formation and development in a rabbit model. Burns and Trauma, 2020, 8, tkaa036.	4.9	8
97	Tribocorrosion behavior of antibacterial Tiâ€"Cu sintered alloys in simulated biological environments. Rare Metals, 2022, 41, 1921-1932.	7.1	7
98	On the effect of trace Si on accelerating the corrosion of Mg-Mn alloys. Corrosion Science, 2022, 201, 110258.	6.6	7
99	Effect of heat treatment on the bio-corrosion properties and wear resistance of antibacterial Co-29Cr-6Mo-xCu alloys. Journal of Materials Science: Materials in Medicine, 2019, 30, 112.	3.6	5
100	To improve the angiogenesis of endothelial cells on Ti-Cu alloy by the synergistic effects of Cu ions release and surface nanostructure. Surface and Coatings Technology, 2022, 433, 128116.	4.8	5
101	Construction of a Rough Surface with Submicron Ti2Cu Particle on Ti-Cu Alloy and Its Effect on the Antibacterial Properties and Cell Biocompatibility. Metals, 2022, 12, 1008.	2.3	5
102	Microstructure and hardness of as-cast in situ TiB short fibre reinforced Ti-6Al matrix composites. Journal of Materials Science, 2002, 37, 1861-1867.	3.7	4
103	Grain refinement of AZ91D by spinning spray of carbon dioxide gas and its effect on mechanical property. Materials Science and Technology, 2010, 26, 956-961.	1.6	4
104	The osteoimmunomodulatory effect of nanostructured TiF _x /TiO _x coating on osteogenesis induction. Biomedical Materials (Bristol), 2021, 16, 045041.	3.3	4
105	A ferulic acid (FA)â€eluting system for biodegradable magnesium stent: <scp>C</scp>ells response of HUVECs. Journal of Biomedical Materials Research - Part A, 2015, 103, 2758-2769.	4.0	3
106	In vitro bioactivity, tribological property, and antibacterial ability of Caâ€"Si-based coatings doped with cu particles in-situ fabricated by laser cladding. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	3
107	A study on the kinetic process of reaction synthesis of TiC: Part II. Theoretical analyses and numerical calculation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 1153-1157.	2.2	2
108	Title is missing!. Journal of Materials Science Letters, 2001, 20, 1733-1735.	0.5	2

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109	Microstructure and mechanical properties of AZ91D alloy prepared by a semi-solid diecasting process. International Journal of Materials Research, 2007, 98, 235-238.	0.3	2
110	Effect of Cu on the Tribocorrosion Behavior of Antibacterial CoCrMo Alloys in Simulated Biological Environment. Journal of Tribology, 2021, 143, .	1.9	2
111	The Influence of Copper Content on the Elastic Modulus and Antibacterial Properties of Ti-13Nb-13Zr-xCu Alloy. Metals, 2022, 12, 1132.	2.3	1
112	Reduced inflammatory response of macrophages on nanostructured surface of Ti-Cu alloy. Materials Letters, 2022, 319, 132298.	2.6	0