Guosong Wu

List of Publications by Year
in descending order

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102 papers	4,296 citations	81900 39 h-index	118850 62 g-index
102 all docs	102 docs citations	102 times ranked	3513 citing authors

#	Article	IF	Citations
1	Surface design of biodegradable magnesium alloys â€" A review. Surface and Coatings Technology, 2013, 233, 2-12.	4.8	309
2	Enhanced antimicrobial properties, cytocompatibility, and corrosion resistance of plasma-modified biodegradable magnesium alloys. Acta Biomaterialia, 2014, 10, 544-556.	8.3	194
3	Electrochemical corrosion behavior of biodegradable Mgâ€"Yâ€"RE and Mgâ€"Znâ€"Zr alloys in Ringerâ€™s solution and simulated body fluid. Corrosion Science, 2015, 91, 160-184.	6.6	162
4	Improvement of corrosion resistance and biocompatibility of rare-earth WE43 magnesium alloy by neodymium self-ion implantation. Corrosion Science, 2015, 94, 142-155.	6.6	161
5	Engineering and functionalization of biomaterials via surface modification. Journal of Materials Chemistry B, 2015, 3, 2024-2042.	5.8	138
6	Effects of zirconium and oxygen plasma ion implantation on the corrosion behavior of ZK60 Mg alloy in simulated body fluids. Corrosion Science, 2014, 82, 7-26.	6.6	106
7	Simultaneously improving corrosion resistance and mechanical properties of a magnesium alloy via equal-channel angular pressing and post water annealing. Materials and Design, 2019, 166, 107621.	7.0	97
8	Effect of bias voltage on growth property of Cr-DLC film prepared by linear ion beam deposition technique. Vacuum, 2010, 85, 231-235.	3.5	94
9	Preparation, characterization and properties of Cr-incorporated DLC films on magnesium alloy. Diamond and Related Materials, 2010, 19, 1307-1315.	3.9	89
10	Improving wear resistance and corrosion resistance of AZ31 magnesium alloy by DLC/AlN/Al coating. Surface and Coatings Technology, 2010, 205, 2067-2073.	4.8	85
11	In situ synthesis of Ni(OH)2/TiO2 composite film on NiTi alloy for non-enzymatic glucose sensing. Sensors and Actuators B: Chemical, 2016, 232, 150-157.	7.8	80
12	Growth and corrosion of aluminum PVD-coating on AZ31 magnesium alloy. Materials Letters, 2008, 62, 4325-4327.	2.6	79
13	Corrosion behavior of SS316L in simulated and accelerated PEMFC environments. International Journal of Hydrogen Energy, 2011, 36, 13032-13042.	7.1	79
14	Systematic Study of Inherent Antibacterial Properties of Magnesium-based Biomaterials. ACS Applied Materials & Interfaces, 2016, 8, 9662-9673.	8.0	79
15	Early oxidation behaviors of Mgâ€"Y alloys at high temperatures. Journal of Alloys and Compounds, 2008, 460, 368-374.	5.5	74
16	Plasma modified Mgâ€"Ndâ€"Znâ€"Zr alloy with enhanced surface corrosion resistance. Corrosion Science, 2014, 78, 121-129.	6.6	73
17	Effects of tantalum ion implantation on the corrosion behavior of AZ31 magnesium alloys. Journal of Alloys and Compounds, 2007, 437, 87-92.	5.5	70
18	Influence of interlayers on corrosion resistance of diamond-like carbon coating on magnesium alloy. Surface and Coatings Technology, 2010, 204, 2193-2196.	4.8	65

#	Article	IF	Citations
19	Effects of silicon plasma ion implantation on electrochemical corrosion behavior of biodegradable Mgâ€“Yâ€“RE Alloy. Corrosion Science, 2013, 69, 158-163.	6.6	65
20	Eelectrochemical properties and corrosion resistance of carbon-ion-implanted magnesium. Corrosion Science, 2014, 82, 173-179.	6.6	65
21	Plasma Surface Functionalized Polyetheretherketone for Enhanced Osseo-Integration at Bone-Implant Interface. ACS Applied Materials & Interfaces, 2016, 8, 3901-3911.	8.0	64
22	Improved corrosion resistance and cytocompatibility of magnesium alloy by two-stage cooling in thermal treatment. Corrosion Science, 2012, 59, 360-365.	6.6	63
23	Extracellular Electron Transfer from Aerobic Bacteria to Au-Loaded TiO₂ Semiconductor without Light: A New Bacteria-Killing Mechanism Other than Localized Surface Plasmon Resonance or Microbial Fuel Cells. ACS Applied Materials & Interfaces, 2016, 8, 24509-24516.	8.0	62
24	Plasma-Modified Biomaterials for Self-Antimicrobial Applications. ACS Applied Materials & Interfaces, 2011, 3, 2851-2860.	8.0	61
25	Achieving an acid resistant surface on magnesium alloy via bio-inspired design. Applied Surface Science, 2019, 478, 150-161.	6.1	60
26	Retardation of surface corrosion of biodegradable magnesium-based materials by aluminum ion implantation. Applied Surface Science, 2012, 258, 7651-7657.	6.1	59
27	Mitigation of Corrosion on Magnesium Alloy by Predesigned Surface Corrosion. Scientific Reports, 2015, 5, 17399.	3.3	59
28	Improved surface corrosion resistance of WE43 magnesium alloy by dual titanium and oxygen ion implantation. Thin Solid Films, 2013, 529, 407-411.	1.8	58
29	Self-protection against corrosion of aged magnesium alloy in simulated physiological environment. Corrosion Science, 2013, 68, 279-285.	6.6	56
30	Characterization of ceramic PVD thin films on AZ31 magnesium alloys. Applied Surface Science, 2006, 252, 7422-7429.	6.1	55
31	Effects of zirconium and nitrogen plasma immersion ion implantation on the electrochemical corrosion behavior of Mgâ€“Yâ€“RE alloy in simulated body fluid and cell culture medium. Corrosion Science, 2014, 86, 239-251.	6.6	53
32	Excellent corrosion resistance of P and Fe modified micro-arc oxidation coating on Al alloy. Journal of Alloys and Compounds, 2017, 710, 452-459.	5.5	53
33	Improving corrosion resistance of titanium-coated magnesium alloy by modifying surface characteristics of magnesium alloy prior to titanium coating deposition. Scripta Materialia, 2009, 61, 269-272.	5.2	52
34	Controllable degradation of biomedical magnesium by chromium and oxygen dual ion implantation. Materials Letters, 2011, 65, 2171-2173.	2.6	49
35	Rapid degradation of biomedical magnesium induced by zinc ion implantation. Materials Letters, 2011, 65, 661-663.	2.6	47
36	Effects of surface alloying on electrochemical corrosion behavior of oxygen-plasma-modified biomedical magnesium alloy. Surface and Coatings Technology, 2012, 206, 3186-3195.	4.8	47

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37	Fabrication of Al and Al/Ti coatings on magnesium alloy by sputtering. Materials Letters, 2007, 61, 3815-3817.	2.6	44
38	The corrosion behavior of Ce-implanted magnesium alloys. Materials Characterization, 2008, 59, 618-623.	4.4	42
39	Preparation and characterization of ceramic/metal duplex coatings deposited on AZ31 magnesium alloy by multi-magnetron sputtering. Materials Letters, 2006, 60, 674-678.	2.6	41
40	Formation and electrochemical behavior of Al and O plasma-implanted biodegradable Mg-Y-RE alloy. Materials Chemistry and Physics, 2012, 132, 187-191.	4.0	41
41	The effect of interlayer on corrosion resistance of ceramic coating/Mg alloy substrate in simulated physiological environment. Surface and Coatings Technology, 2012, 206, 4892-4898.	4.8	39
42	Tension-compression asymmetry of the AZ91 magnesium alloy with multi-heterogenous microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 703-707.	5.6	39
43	Nonleaching Antibacterial Concept Demonstrated by In Situ Construction of 2D Nanoflakes on Magnesium. Advanced Science, 2020, 7, 1902089.	11.2	39
44	Improved corrosion resistance on biodegradable magnesium by zinc and aluminum ion implantation. Applied Surface Science, 2012, 263, 608-612.	6.1	37
45	Surface oxidation behavior of MgNd alloys. Applied Surface Science, 2007, 253, 9017-9023.	6.1	36
46	Achieving controllable degradation of a biomedical magnesium alloy by anodizing in molten ammonium bifluoride. Surface and Coatings Technology, 2017, 313, 282-287.	4.8	35
47	Corrosion behavior of Tiâ€“Alâ€“N/Tiâ€“Al duplex coating on AZ31 magnesium alloy in NaCl aqueous solution. Materials Characterization, 2009, 60, 803-807.	4.4	33
48	The effect of Y-ion implantation on the oxidation of AZ31 magnesium alloy. Materials Letters, 2007, 61, 968-970.	2.6	31
49	Nickel plasma modification of graphene for high-performance non-enzymatic glucose sensing. Sensors and Actuators B: Chemical, 2017, 251, 842-850.	7.8	31
50	Improved corrosion and wear resistance of micro-arc oxidation coatings on the 2024 aluminum alloy by incorporation of quasi-two-dimensional sericite microplates. Applied Surface Science, 2022, 585, 152693.	6.1	29
51	Yttrium ion implantation on the surface properties of magnesium. Applied Surface Science, 2006, 253, 2437-2442.	6.1	28
52	Effects of cerium ion implantation on the corrosion behavior of magnesium in different biological media. Surface and Coatings Technology, 2016, 306, 6-10.	4.8	28
53	The effects of cerium implantation on the oxidation behavior of AZ31 magnesium alloys. Journal of Alloys and Compounds, 2008, 456, 384-389.	5.5	27
54	Effect of hierarchical precipitates on corrosion behavior of fine-grain magnesium-gadolinium-silver alloy. Corrosion Science, 2022, 194, 109924.	6.6	27

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55	Surface analysis and oxidation behavior of Y-ion implanted AZ31 magnesium alloys. Applied Surface Science, 2007, 253, 3574-3580.	6.1	25
56	Persistent photoconductivity in ZnO nanostructures induced by surface oxygen vacancy. Physica Status Solidi - Rapid Research Letters, 2012, 6, 117-119.	2.4	24
57	Formation by reactive magnetron sputtering of TiN coating on Ti-implanted magnesium alloy. Materials Letters, 2006, 60, 2252-2255.	2.6	23
58	Structure and elastic recovery of Crâ€“C:H films deposited by a reactive magnetron sputtering technique. Applied Surface Science, 2010, 257, 244-248.	6.1	22
59	Wear mechanism and tribological characteristics of porous NiTi shape memory alloy for bone scaffold. Journal of Biomedical Materials Research - Part A, 2013, 101A, 2586-2601.	4.0	22
60	Supercapacitor Electrodes Based on Hierarchical Mesoporous MnO_x/Nitrided TiO₂ Nanorod Arrays on Carbon Fiber Paper. Advanced Materials Interfaces, 2015, 2, 1400446.	3.7	22
61	Effects of silver plasma immersion ion implantation on the surface characteristics and cytocompatibility of titanium nitride films. Surface and Coatings Technology, 2015, 279, 166-170.	4.8	22
62	Magnetron-sputtered fluorocarbon polymeric film on magnesium for corrosion protection. Surface and Coatings Technology, 2018, 352, 437-444.	4.8	22
63	Formation of self-layered hydrothermal coating on magnesium aided by titanium ion implantation: Synergistic control of corrosion resistance and cytocompatibility. Surface and Coatings Technology, 2020, 401, 126251.	4.8	21
64	Achieving gradient heterogeneous structure in Mg alloy for excellent strength-ductility synergy. Journal of Magnesium and Alloys, 2023, 11, 2392-2403.	11.9	20
65	Corrosion behavior of chromium and oxygen plasma-modified magnesium in sulfate solution and simulated body fluid. Applied Surface Science, 2012, 258, 8273-8278.	6.1	19
66	Revealing anti-corrosion behavior of magnesium alloy in simulated concrete pore solution. Materials Letters, 2021, 285, 129047.	2.6	19
67	Developing a high-performance Mg-5.7Gd-1.9Ag wrought alloy via hot rolling and aging. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 803, 140707.	5.6	19
68	Fabrication of Cr coating on AZ31 magnesium alloy by magnetron sputtering. Transactions of Nonferrous Metals Society of China, 2008, 18, s329-s333.	4.2	18
69	Effects of carbon dioxide plasma immersion ion implantation on the electrochemical properties of AZ31 magnesium alloy in physiological environment. Applied Surface Science, 2013, 286, 257-260.	6.1	18
70	Plasma and ion-beam modification of metallic biomaterials for improved anti-bacterial properties. Surface and Coatings Technology, 2016, 306, 140-146.	4.8	18
71	Hafnium-implanted WE43 magnesium alloy for enhanced corrosion protection and biocompatibility. Surface and Coatings Technology, 2016, 306, 11-15.	4.8	18
72	Improved corrosion resistance of Mg-Y-RE alloy coated with niobium nitride. Thin Solid Films, 2014, 572, 85-90.	1.8	17

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73	Dual Ti and C ion-implanted stainless steel bipolar plates in polymer electrolyte membrane fuel cells. Surface and Coatings Technology, 2012, 206, 2914-2921.	4.8	16
74	Robust Electrodes Based on Coaxial TiC/C-MnO₂Core/Shell Nanofiber Arrays with Excellent Cycling Stability for High-Performance Supercapacitors. Small, 2015, 11, 1847-1856.	10.0	15
75	Corrosion behavior of Mg-5.7Gd-1.9Ag Mg alloy sheet. Journal of Alloys and Compounds, 2022, 915, 165241.	5.5	14
76	Surface microstructurization of a sputtered magnesium thin film via a solutionâ€“immersion route. Materials Letters, 2010, 64, 475-478.	2.6	13
77	In vitro corrosion inhibition on biomedical shape memory alloy by plasma-polymerized allylamine film. Materials Letters, 2012, 89, 51-54.	2.6	13
78	Unusual anti-bacterial behavior and corrosion resistance of magnesium alloy coated with diamond-like carbon. RSC Advances, 2016, 6, 14756-14762.	3.6	13
79	Effects of diamond-like carbon film on the corrosion behavior of NdFeB permanent magnet. Surface and Coatings Technology, 2017, 312, 66-74.	4.8	13
80	Improving Corrosion Resistance of Magnesium Alloy in Cl- Containing Simulated Concrete Pore Solution by Ultrasound-Assisted Chemical Deposition. Scanning, 2021, 2021, 1-8.	1.5	13
81	Effects of chromium ion implantation voltage on the corrosion resistance and cytocompatibility of dual chromium and oxygen plasma-ion-implanted biodegradable magnesium. Surface and Coatings Technology, 2013, 235, 875-880.	4.8	12
82	Improved Corrosion Resistance of Magnesium Alloy in Simulated Concrete Pore Solution by Hydrothermal Treatment. Scanning, 2020, 2020, 1-7.	1.5	12
83	Formation of a novel nanocrystalline coating on AZ31 magnesium alloy by bias sputtering. Materials Letters, 2007, 61, 4019-4022.	2.6	11
84	Rare-earth-incorporated polymeric vector for enhanced gene delivery. Biomaterials, 2014, 35, 479-488.	11.4	11
85	Praseodymium-surface-modified magnesium alloy: Retardation of corrosion in artificial hand sweat. Materials Letters, 2016, 163, 85-89.	2.6	11
86	Investigation of Indenter-Size-Dependent Nanoplasticity of Silicon by Molecular Dynamics Simulation. ACS Applied Electronic Materials, 2020, 2, 3039-3047.	4.3	10
87	Cyclic oxidation behaviour of cerium implanted AZ31 magnesium alloys. Materials Letters, 2007, 61, 1429-1432.	2.6	9
88	Enhancing corrosion resistance of hydrothermally-treated magnesium-aluminum alloys by preprocessed metallurgical microstructure. Thin Solid Films, 2022, 752, 139247.	1.8	9
89	Tuning strength-ductility combination on selective laser melted 316L stainless steel through gradient heterogeneous structure. Additive Manufacturing, 2021, 48, 102373.	3.0	8
90	Mediating the strength, ductility and corrosion resistance of high aluminum containing magnesium alloy by engineering hierarchical precipitates. Journal of Alloys and Compounds, 2021, 857, 158277.	5.5	7

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91	Plasma-target surface interaction during non-equilibrium plasma irradiation at atmospheric pressure: Generation of dusty plasma. Laser and Particle Beams, 2014, 32, 69-78.	1.0	6
92	Oxidation kinetics of magnesium alloys treated by tantalum ions implantation. Nuclear Instruments & Methods in Physics Research B, 2007, 263, 401-406.	1.4	5
93	Electrochemical degradation and extraction capability of magnesium wastes in sewage treatment. Materials and Design, 2016, 111, 537-540.	7.0	4
94	Antibacterial Biomaterials: Nonleaching Antibacterial Concept Demonstrated by In Situ Construction of 2D Nanoflakes on Magnesium (Adv. Sci. 1/2020). Advanced Science, 2020, 7, 2070006.	11.2	3
95	Recent Applications of Scanning Microscopy in Surface Engineering. Scanning, 2018, 2018, 1-2.	1.5	2
96	Influence of gradient interlayer thickness on corrosion and tribological behavior of Ti-containing multilayer graphite-like carbon films. Wear, 2022, 488-489, 204177.	3.1	2
97	Enhanced corrosion resistance of magnesium-neodymium alloy in simulated concrete pore solution by predesigned corrosion product. Materials Today Communications, 2022, 32, 104027.	1.9	2
98	Impact responses of a multi-element quartz shock gauge. Sensors and Actuators A: Physical, 2008, 141, 353-358.	4.1	1
99	Improving the degradation behavior of magnesium alloy by plasma surface modification for biomedical application. , 2012, , .		1
100	Improving the corrosion resistance of biodegradable magnesium alloy by plasma dual ion implantation. , 2012, , .		1
101	Shrinking tension-compression asymmetry of Au nanowires by designed nanotwin boundaries. Materials Chemistry and Physics, 2020, 252, 123267.	4.0	1
102	Retardation of degradation of biomedical magnesium alloy by plasma-based deposition technique. , 2012, , .		0