

# Da-wei Zhang

## List of Publications by Year in descending order

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118  
papers

8,733  
citations

47006

47  
h-index

45317

90  
g-index

118  
all docs

118  
docs citations

118  
times ranked

4946  
citing authors

#	ARTICLE	IF	CITATIONS
1	The cost of corrosion in China. <i>Npj Materials Degradation</i> , 2017, 1, .	5.8	652
2	Materials science: Share corrosion data. <i>Nature</i> , 2015, 527, 441-442.	27.8	557
3	Self-healing mechanisms in smart protective coatings: A review. <i>Corrosion Science</i> , 2018, 144, 74-88.	6.6	543
4	Dual-action smart coatings with a self-healing superhydrophobic surface and anti-corrosion properties. <i>Journal of Materials Chemistry A</i> , 2017, 5, 2355-2364.	10.3	413
5	Anaerobic microbiologically influenced corrosion mechanisms interpreted using bioenergetics and bioelectrochemistry: A review. <i>Journal of Materials Science and Technology</i> , 2018, 34, 1713-1718.	10.7	326
6	Superhydrophobic surfaces for corrosion protection: a review of recent progresses and future directions. <i>Journal of Coatings Technology Research</i> , 2016, 13, 11-29.	2.5	296
7	Superior corrosion resistance and self-healable epoxy coating pigmented with silanized trianiline-intercalated graphene. <i>Carbon</i> , 2019, 142, 164-176.	10.3	204
8	Effect of inclusions modified by rare earth elements (Ce, La) on localized marine corrosion in Q460NH weathering steel. <i>Corrosion Science</i> , 2017, 129, 82-90.	6.6	197
9	Comparison of barrier properties for a superhydrophobic epoxy coating under different simulated corrosion environments. <i>Corrosion Science</i> , 2016, 103, 230-241.	6.6	189
10	One-step synthesis of superhydrophobic polyhedral oligomeric silsesquioxane-graphene oxide and its application in anti-corrosion and anti-wear fields. <i>Corrosion Science</i> , 2019, 147, 9-21.	6.6	187
11	Superhydrophobic oligoaniline-containing electroactive silica coating as pre-process coating for corrosion protection of carbon steel. <i>Chemical Engineering Journal</i> , 2018, 348, 940-951.	12.7	186
12	A bioactive "self-fitting" shape memory polymer scaffold with potential to treat cranio-maxillo facial bone defects. <i>Acta Biomaterialia</i> , 2014, 10, 4597-4605.	8.3	154
13	Triple-Action Self-Healing Protective Coatings Based on Shape Memory Polymers Containing Dual-Function Microspheres. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 23369-23379.	8.0	152
14	Role of Al <sub>2</sub> O <sub>3</sub> inclusions on the localized corrosion of Q460NH weathering steel in marine environment. <i>Corrosion Science</i> , 2018, 138, 96-104.	6.6	146
15	Improvement of anticorrosion ability of epoxy matrix in simulate marine environment by filled with superhydrophobic POSS-GO nanosheets. <i>Journal of Hazardous Materials</i> , 2019, 364, 244-255.	12.4	143
16	Accelerated corrosion of 2205 duplex stainless steel caused by marine aerobic <i>Pseudomonas aeruginosa</i> biofilm. <i>Bioelectrochemistry</i> , 2017, 113, 1-8.	4.6	138
17	Effect of molybdenum content on the microstructure and corrosion behavior of FeCoCrNiMox high-entropy alloys. <i>Journal of Materials Science and Technology</i> , 2020, 46, 64-73.	10.7	138
18	Dual-action self-healing protective coatings with photothermal responsive corrosion inhibitor nanocontainers. <i>Chemical Engineering Journal</i> , 2021, 404, 127118.	12.7	122

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19	Investigation of microbiologically influenced corrosion of high nitrogen nickel-free stainless steel by <i>Pseudomonas aeruginosa</i> . <i>Corrosion Science</i> , 2016, 111, 811-821.	6.6	110
20	POSS-tetraaniline modified graphene for active corrosion protection of epoxy-based organic coating. <i>Chemical Engineering Journal</i> , 2020, 383, 123160.	12.7	109
21	Accelerated corrosion of 2304 duplex stainless steel by marine <i>Pseudomonas aeruginosa</i> biofilm. <i>International Biodeterioration and Biodegradation</i> , 2018, 127, 1-9.	3.9	108
22	Plasmon-mediated photothermal and superhydrophobic TiN-PTFE film for anti-icing/deicing applications. <i>Composites Science and Technology</i> , 2019, 181, 107696.	7.8	105
23	Superhydrophobic carbon nanotubes/epoxy nanocomposite coating by facile one-step spraying. <i>Surface and Coatings Technology</i> , 2018, 341, 15-23.	4.8	99
24	A durable and photothermal superhydrophobic coating with entwined CNTs-SiO <sub>2</sub> hybrids for anti-icing applications. <i>Chemical Engineering Journal</i> , 2021, 423, 130238.	12.7	98
25	Enhanced resistance of 2205 Cu-bearing duplex stainless steel towards microbiologically influenced corrosion by marine aerobic <i>Pseudomonas aeruginosa</i> biofilms. <i>Journal of Materials Science and Technology</i> , 2018, 34, 1325-1336.	10.7	90
26	Towards understanding and prediction of atmospheric corrosion of an Fe/Cu corrosion sensor via machine learning. <i>Corrosion Science</i> , 2020, 170, 108697.	6.6	82
27	Self-reporting coatings for autonomous detection of coating damage and metal corrosion: A review. <i>Chemical Engineering Journal</i> , 2021, 421, 127854.	12.7	81
28	Microbiologically Influenced Corrosion of 2707 Hyper-Duplex Stainless Steel by Marine <i>Pseudomonas aeruginosa</i> Biofilm. <i>Scientific Reports</i> , 2016, 6, 20190.	3.3	80
29	Chlorine-Doped Graphene Quantum Dots with Enhanced Anti- and Pro-Oxidant Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 21822-21829.	8.0	77
30	Stress-assisted microbiologically influenced corrosion mechanism of 2205 duplex stainless steel caused by sulfate-reducing bacteria. <i>Corrosion Science</i> , 2020, 173, 108746.	6.6	74
31	pH-Responsive zeolitic imidazole framework nanoparticles with high active inhibitor content for self-healing anticorrosion coatings. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2018, 555, 18-26.	4.7	72
32	Effect of AC on stress corrosion cracking behavior and mechanism of X80 pipeline steel in carbonate/bicarbonate solution. <i>Corrosion Science</i> , 2014, 87, 224-232.	6.6	71
33	Shape memory composite (SMC) self-healing coatings for corrosion protection. <i>Progress in Organic Coatings</i> , 2016, 97, 261-268.	3.9	68
34	Laboratory investigation of microbiologically influenced corrosion of Q235 carbon steel by halophilic archaea <i>Natronorubrum tibetense</i> . <i>Corrosion Science</i> , 2018, 145, 151-161.	6.6	67
35	Microbiologically influenced corrosion of FeCoCrNiMo <sub>0.1</sub> high-entropy alloys by marine <i>Pseudomonas aeruginosa</i> . <i>Corrosion Science</i> , 2020, 165, 108390.	6.6	67
36	Mussel-inspired superhydrophobic surfaces with enhanced corrosion resistance and dual-action antibacterial properties. <i>Materials Science and Engineering C</i> , 2017, 80, 566-577.	7.3	66

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37	Cu nanoparticles derived from CuO electrodes in lithium cells. <i>Nanotechnology</i> , 2005, 16, 2338-2341.	2.6	65
38	pH-responsive self-healing anticorrosion coatings based on benzotriazole-containing zeolitic imidazole framework. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2019, 561, 1-8.	4.7	65
39	Pyocyanin-modifying genes <i>phzM</i> and <i>phzS</i> regulated the extracellular electron transfer in microbiologically-influenced corrosion of X80 carbon steel by <i>Pseudomonas aeruginosa</i> . <i>Corrosion Science</i> , 2020, 164, 108355.	6.6	65
40	Direct microbial electron uptake as a mechanism for stainless steel corrosion in aerobic environments. <i>Water Research</i> , 2022, 219, 118553.	11.3	63
41	Microbiologically influenced corrosion inhibition mechanisms in corrosion protection: A review. <i>Bioelectrochemistry</i> , 2021, 141, 107883.	4.6	58
42	Ultrafast and high-efficient self-healing epoxy coatings with active multiple hydrogen bonds for corrosion protection. <i>Corrosion Science</i> , 2021, 187, 109485.	6.6	56
43	Towards a better understanding of localised corrosion induced by typical non-metallic inclusions in low-alloy steels. <i>Corrosion Science</i> , 2021, 179, 109150.	6.6	55
44	Durable deicing lubricant-infused surface with photothermally switchable hydrophobic/slippy property. <i>Materials and Design</i> , 2020, 185, 108236.	7.0	54
45	Corrosion effect of <i>Bacillus cereus</i> on X80 pipeline steel in a Beijing soil environment. <i>Bioelectrochemistry</i> , 2018, 121, 18-26.	4.6	53
46	Long-term corrosion monitoring of carbon steels and environmental correlation analysis via the random forest method. <i>Npj Materials Degradation</i> , 2022, 6, .	5.8	53
47	Inorganic-Organic Shape Memory Polymer (SMP) Foams with Highly Tunable Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 186-191.	8.0	50
48	Effect of Surface Microstructures on Hydrophobicity and Barrier Property of Anticorrosive Coatings Prepared by Soft Lithography. <i>Advances in Materials Science and Engineering</i> , 2014, 2014, 1-7.	1.8	50
49	Two birds with one stone: Nanocontainers with synergetic inhibition and corrosion sensing abilities towards intelligent self-healing and self-reporting coating. <i>Chemical Engineering Journal</i> , 2022, 433, 134515.	12.7	50
50	Influence of rare earth metals on mechanisms of localised corrosion induced by inclusions in Zr-Ti deoxidised low alloy steel. <i>Corrosion Science</i> , 2020, 166, 108463.	6.6	48
51	Effect of carbon nanotubes on the corrosion resistance of water-borne acrylic coatings. <i>Progress in Organic Coatings</i> , 2017, 110, 182-186.	3.9	47
52	Durable lubricant-infused anodic aluminum oxide surfaces with high-aspect-ratio nanochannels. <i>Chemical Engineering Journal</i> , 2019, 368, 138-147.	12.7	47
53	Marine Biofilms with Significant Corrosion Inhibition Performance by Secreting Extracellular Polymeric Substances. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 47272-47282.	8.0	47
54	Current status, opportunities and challenges in chemical conversion coatings for zinc. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2018, 546, 221-236.	4.7	46

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55	Self-healing corrosion protective coatings based on micro/nanocarriers: A review. <i>Corrosion Communications</i> , 2021, 1, 18-25.	6.0	46
56	Adaptive bidirectional extracellular electron transfer during accelerated microbiologically influenced corrosion of stainless steel. <i>Communications Materials</i> , 2021, 2, .	6.9	46
57	Reviewing machine learning of corrosion prediction in a data-oriented perspective. <i>Npj Materials Degradation</i> , 2022, 6, .	5.8	45
58	Prediction and Knowledge Mining of Outdoor Atmospheric Corrosion Rates of Low Alloy Steels Based on the Random Forests Approach. <i>Metals</i> , 2019, 9, 383.	2.3	44
59	Mussel-inspired superhydrophilic surface with enhanced antimicrobial properties under immersed and atmospheric conditions. <i>Applied Surface Science</i> , 2019, 465, 267-278.	6.1	42
60	Improving atmospheric corrosion prediction through key environmental factor identification by random forest-based model. <i>Corrosion Science</i> , 2021, 178, 109084.	6.6	42
61	New insights into the mechanism of localised corrosion induced by TiN-containing inclusions in high strength low alloy steel. <i>Journal of Materials Science and Technology</i> , 2022, 124, 141-149.	10.7	42
62	Graphene oxide-cerium oxide hybrids for enhancement of mechanical properties and corrosion resistance of epoxy coatings. <i>Journal of Materials Science</i> , 2021, 56, 10108-10123.	3.7	41
63	Porous inorganic-organic shape memory polymers. <i>Polymer</i> , 2012, 53, 2935-2941.	3.8	38
64	Prediction of polycarbonate degradation in natural atmospheric environment of China based on BP-ANN model with screened environmental factors. <i>Chemical Engineering Journal</i> , 2020, 399, 125878.	12.7	38
65	POSS-tetraaniline based giant molecule: Synthesis, self-assembly, and active corrosion protection of epoxy-based organic coatings. <i>Corrosion Science</i> , 2020, 168, 108555.	6.6	37
66	Photothermal and pH dual-responsive self-healing coating for smart corrosion protection. <i>Journal of Materials Science and Technology</i> , 2022, 107, 34-42.	10.7	37
67	Atmospheric corrosion factors of printed circuit boards in a dry-heat desert environment: Salty dust and diurnal temperature difference. <i>Chemical Engineering Journal</i> , 2018, 336, 92-101.	12.7	36
68	Detection of corrosion inhibitor adsorption via a surface-enhanced Raman spectroscopy (SERS) silver nanorods tape sensor. <i>Sensors and Actuators B: Chemical</i> , 2020, 321, 128617.	7.8	36
69	Acceleration of corrosion of 304 stainless steel by outward extracellular electron transfer of <i>Pseudomonas aeruginosa</i> biofilm. <i>Corrosion Science</i> , 2022, 199, 110159.	6.6	36
70	Data mining to online galvanic current of zinc/copper Internet atmospheric corrosion monitor. <i>Corrosion Science</i> , 2018, 133, 443-450.	6.6	35
71	Bias design of amorphous/nanocrystalline Cr Al Si N films for remarkable anti-corrosion and anti-wear performances in seawater. <i>Tribology International</i> , 2018, 121, 410-419.	5.9	33
72	Formation mechanisms of environmentally acceptable chemical conversion coatings for zinc: a review. <i>Journal of Coatings Technology Research</i> , 2019, 16, 1-13.	2.5	32

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73	Understanding environmental impacts on initial atmospheric corrosion based on corrosion monitoring sensors. <i>Journal of Materials Science and Technology</i> , 2021, 64, 214-221.	10.7	32
74	Anti-corrosion properties of oligoaniline modified silica hybrid coatings for low-carbon steel. <i>Synthetic Metals</i> , 2018, 235, 61-70.	3.9	30
75	d-Cysteine functionalised silver nanoparticles surface with a "close-then-kill" antibacterial synergy. <i>Chemical Engineering Journal</i> , 2020, 381, 122662.	12.7	29
76	Saline-responsive triple-action self-healing coating for intelligent corrosion control. <i>Materials and Design</i> , 2022, 214, 110381.	7.0	29
77	Responses of soil microbiome to steel corrosion. <i>Npj Biofilms and Microbiomes</i> , 2021, 7, 6.	6.4	28
78	Recent Advances in Scanning Electrochemical Microscopy for Biological Applications. <i>Materials</i> , 2018, 11, 1389.	2.9	26
79	Accelerating effect of catalase on microbiologically influenced corrosion of 304 stainless steel by the halophilic archaeon <i>Natronorubrum tibetense</i> . <i>Corrosion Science</i> , 2021, 178, 109057.	6.6	26
80	Microbiologically influenced corrosion of 304 stainless steel by nitrate reducing <i>Bacillus cereus</i> in simulated Beijing soil solution. <i>Bioelectrochemistry</i> , 2020, 133, 107477.	4.6	25
81	Photothermally activated self-healing protective coating based on the "close and seal" dual-action mechanisms. <i>Composites Part B: Engineering</i> , 2022, 231, 109574.	12.0	24
82	Multi-action self-healing coatings with simultaneous recovery of corrosion resistance and adhesion strength. <i>Journal of Materials Science and Technology</i> , 2022, 101, 18-27.	10.7	23
83	Microbiologically influenced corrosion inhibition of carbon steel via biomineralization induced by <i>Shewanella putrefaciens</i> . <i>Npj Materials Degradation</i> , 2021, 5, .	5.8	23
84	Smart protective coatings with self-sensing and active corrosion protection dual functionality from pH-sensitive calcium carbonate microcontainers. <i>Corrosion Science</i> , 2022, 200, 110254.	6.6	23
85	Effect of Dissolved Oxygen Concentration on the Microbiologically Influenced Corrosion of Q235 Carbon Steel by Halophilic Archaeon <i>Natronorubrum tibetense</i> . <i>Frontiers in Microbiology</i> , 2019, 10, 844.	3.5	22
86	Design of novel superhydrophobic aniline trimer modified siliceous material and its application for steel protection. <i>Applied Surface Science</i> , 2018, 457, 752-763.	6.1	21
87	Effect of interlayer design on friction and wear behaviors of CrAlSiN coating under high load in seawater. <i>RSC Advances</i> , 2018, 8, 5596-5607.	3.6	20
88	Preparation and Characterization of Polyelectrolyte-Modified Attapulgite as Nanocontainers for Protection of Carbon Steel. <i>Journal of the Electrochemical Society</i> , 2018, 165, C907-C915.	2.9	20
89	Microbiologically influenced corrosion of 304 stainless steel by halophilic archaea <i>Natronorubrum tibetense</i> . <i>Journal of Materials Science and Technology</i> , 2020, 46, 12-20.	10.7	20
90	Qualitative and quantitative detection of corrosion inhibitors using surface-enhanced Raman scattering coupled with multivariate analysis. <i>Applied Surface Science</i> , 2021, 568, 150967.	6.1	20

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91	Accelerating effect of pyocyanin on microbiologically influenced corrosion of 304 stainless steel by the <i>Pseudomonas aeruginosa</i> biofilm. <i>Bioelectrochemistry</i> , 2022, 146, 108130.	4.6	20
92	Preparation of Superhydrophobic Film on Ti Substrate and Its Anticorrosion Property. <i>Materials</i> , 2017, 10, 628.	2.9	19
93	The effect of riboflavin on the microbiologically influenced corrosion of pure iron by <i>Shewanella oneidensis</i> MR-1. <i>Bioelectrochemistry</i> , 2022, 147, 108173.	4.6	19
94	Preparation and evaluation of intelligent corrosion inhibitor based on photo-crosslinked pH-sensitive hydrogels. <i>Materials Letters</i> , 2015, 160, 480-483.	2.6	18
95	Effects of Cu-content and passivation treatment on the corrosion resistance of Al <sub>0.3</sub> Cu CoCrFeNi high-entropy alloys. <i>Journal of Alloys and Compounds</i> , 2022, 920, 165956.	5.5	18
96	Application of An Electrical Resistance Sensor-Based Automated Corrosion Monitor in the Study of Atmospheric Corrosion. <i>Materials</i> , 2019, 12, 1065.	2.9	17
97	Magnetically responsive lubricant-infused porous surfaces with controllable lubricity and durable anti-icing performance. <i>Surface and Coatings Technology</i> , 2021, 406, 126742.	4.8	17
98	Facile fabrication of slippery lubricant-infused porous surface with pressure responsive property for anti-icing application. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 618, 126457.	4.7	17
99	Fabrication of a Bioactive, PCL-based "Self-fitting" Shape Memory Polymer Scaffold. <i>Journal of Visualized Experiments</i> , 2015, , e52981.	0.3	16
100	An infrastructure with user-centered presentation data model for integrated management of materials data and services. <i>Npj Computational Materials</i> , 2021, 7, .	8.7	15
101	The role of surface morphology in the barrier properties of epoxy coatings in different corrosion environments. <i>Progress in Organic Coatings</i> , 2017, 104, 199-209.	3.9	14
102	Understanding of the corrosion protection by V(IV) conversion coatings from a sol-gel perspective. <i>Corrosion Science</i> , 2019, 161, 108196.	6.6	14
103	Mechanically durable antibacterial nanocoatings based on zwitterionic copolymers containing dopamine segments. <i>Journal of Materials Science and Technology</i> , 2021, 89, 233-241.	10.7	14
104	Long-term deterioration of lubricant-infused nanoporous anodic aluminium oxide surface immersed in NaCl solution. <i>Journal of Materials Science and Technology</i> , 2021, 64, 57-65.	10.7	14
105	Influence of NaCl concentration on microbiologically influenced corrosion of carbon steel by halophilic archaeon <i>Natronorubrum tibetense</i> . <i>Bioelectrochemistry</i> , 2021, 140, 107746.	4.6	14
106	Investigation of microbiologically influenced corrosion of 304 stainless steel by aerobic thermoacidophilic archaeon <i>Metallosphaera cuprina</i> . <i>Bioelectrochemistry</i> , 2020, 136, 107635.	4.6	13
107	Effect of polyaniline-based plate on the anticorrosion performance of epoxy coating. <i>Progress in Organic Coatings</i> , 2021, 151, 106109.	3.9	13
108	Self-healing effect of damaged coatings via biomineralization by <i>Shewanella putrefaciens</i> . <i>Corrosion Science</i> , 2022, 196, 110067.	6.6	12

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109	A study for anticorrosion and tribological behaviors of thin/thick diamond-like carbon films in seawater. <i>Surface Topography: Metrology and Properties</i> , 2018, 6, 014004.	1.6	11
110	Electrochemical Behavior and Stress Corrosion Sensitivity of X70 Steel Under Disbonded Coatings in Korla Soil Solution. <i>Journal of Materials Engineering and Performance</i> , 2016, 25, 4657-4665.	2.5	10
111	Corrosion Acceleration of Printed Circuit Boards With an Immersion Silver Layer Exposed to <i>Bacillus cereus</i> in an Aerobic Medium. <i>Frontiers in Microbiology</i> , 2019, 10, 1493.	3.5	10
112	Antibacterial self-healing anticorrosion coatings from single capsule system. <i>Journal of Applied Polymer Science</i> , 2021, 138, 51214.	2.6	9
113	Anti-corrosion performance of aniline trimer-containing sol-gel hybrid coatings for mild steel substrate. <i>Journal of Sol-Gel Science and Technology</i> , 2018, 87, 464-477.	2.4	6
114	Nickel electroplating on copper pre-activated Al alloy in the electrolyte containing PEG1000 as an additive. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	2.3	5
115	Microbiologically Influenced Corrosion of Q235 Carbon Steel by Aerobic Thermoacidophilic Archaeon <i>Metallosphaera cuprina</i> . <i>Acta Metallurgica Sinica (English Letters)</i> , 0, , 1.	2.9	3
116	pH-responsive d-leucine functional multilayer films with antibacterial and anti-adhesion synergistic properties. <i>Materials Today Communications</i> , 2021, 28, 102691.	1.9	3
117	pH-Responsive Allicin-Based Coatings With Antibacterial and Antifouling Effects in Marine Environments. <i>Frontiers in Materials</i> , 2022, 9, .	2.4	3
118	Corrosion Inhibition and Adsorption Process of 3-Amino-5-Mercapto-1,2,4-Triazole on Aluminium Alloy: Experimental and Theoretical Studies. <i>Frontiers in Materials</i> , 2022, 9, .	2.4	3