Fu-Zeng Ren

List of Publications by Citations

116 papers	4,172 citations	29 h-index	62 g-index
119 ext. papers	5,589 ext. citations	6.9 avg, IF	5.87 L-index

#	Paper	IF	Citations
116	Mussel-Inspired Adhesive and Tough Hydrogel Based on Nanoclay Confined Dopamine Polymerization. *ACS Nano*, **2017**, 11, 2561-2574	16.7	517
115	Plant-inspired adhesive and tough hydrogel based on Ag-Lignin nanoparticles-triggered dynamic redox catechol chemistry. *Nature Communications*, **2019**, 10, 1487	17.4	376
114	Tough, self-healable and tissue-adhesive hydrogel with tunable multifunctionality. *NPG Asia Materials*, **2017**, 9, e372-e372	10.3	297
113	Transparent, Adhesive, and Conductive Hydrogel for Soft Bioelectronics Based on Light-Transmitting Polydopamine-Doped Polypyrrole Nanofibrils. *Chemistry of Materials*, **2018**, 30, 5561-5572	9.6	211
112	Characterization and structural analysis of zinc-substituted hydroxyapatites. *Acta Biomaterialia*, **2009**, 5, 3141-9	10.8	205
111	Mussel-Inspired Contact-Active Antibacterial Hydrogel with High Cell Affinity, Toughness, and Recoverability. *Advanced Functional Materials*, **2019**, 29, 1805964	15.6	189
110	Synthesis, characterization and ab initio simulation of magnesium-substituted hydroxyapatite. *Acta Biomaterialia*, **2010**, 6, 2787-96	10.8	145
109	Graphene Oxide-Templated Conductive and Redox-Active Nanosheets Incorporated Hydrogels for Adhesive Bioelectronics. *Advanced Functional Materials*, **2020**, 30, 1907678	15.6	114
108	Biomimetic Mineralized Hierarchical Graphene Oxide/Chitosan Scaffolds with Adsorbability for Immobilization of Nanoparticles for Biomedical Applications. *ACS Applied Materials & Interfaces*, **2016**, 8, 1707-17	9.5	97
107	Cell culture medium as an alternative to conventional simulated body fluid. *Acta Biomaterialia*, **2011**, 7, 2615-22	10.8	89
106	Antibacterial coatings of fluoridated hydroxyapatite for percutaneous implants. *Journal of Biomedical Materials Research - Part A*, **2010**, 95, 588-99	5.4	88
105	A strong, tough, and osteoconductive hydroxyapatite mineralized polyacrylamide/dextran hydrogel for bone tissue regeneration. *Acta Biomaterialia*, **2019**, 88, 503-513	10.8	83
104	Bioadhesive Microporous Architectures by Self-Assembling Polydopamine Microcapsules for Biomedical Applications. *Chemistry of Materials*, **2015**, 27, 848-856	9.6	76
103	Infrared spectroscopic characterization of carbonated apatite: a combined experimental and computational study. *Journal of Biomedical Materials Research - Part A*, **2014**, 102, 496-505	5.4	61
102	Mussel-inspired dopamine oligomer intercalated tough and resilient gelatin methacryloyl (GelMA) hydrogels for cartilage regeneration. *Journal of Materials Chemistry B*, **2019**, 7, 1716-1725	7.3	60
101	In Situ Construction of an Ultra-Stable Conductive Composite Interface for High-Voltage All-Solid-State Lithium Metal Batteries. *Angewandte Chemie - International Edition*, **2020**, 59, 11784-11788	16.4	60
100	Sliding wear-induced chemical nanolayering in Cu□Ag, and its implications for high wear resistance. *Acta Materialia*, **2014**, 72, 148-158	8.4	58

99	An Anisotropic Hydrogel Based on Mussel-Inspired Conductive Ferrofluid Composed of Electromagnetic Nanohybrids. *Nano Letters*, **2019**, 19, 8343-8356	11.5	55
98	Mussel-inspired cryogels for promoting wound regeneration through photobiostimulation, modulating inflammatory responses and suppressing bacterial invasion. *Nanoscale*, **2019**, 11, 15846-15861	7.7	51
97	A Mussel-Inspired Persistent ROS-Scavenging, Electroactive, and Osteoinductive Scaffold Based on Electrochemical-Driven In Situ Nanoassembly. *Small*, **2019**, 15, e1805440	11	45
96	Mussel-inspired nanozyme catalyzed conductive and self-setting hydrogel for adhesive and antibacterial bioelectronics. *Bioactive Materials*, **2021**, 6, 2676-2687	16.7	45
95	Mussel-Inspired Redox-Active and Hydrophilic Conductive Polymer Nanoparticles for Adhesive Hydrogel Bioelectronics. *Nano-Micro Letters*, **2020**, 12, 169	19.5	41
94	Bacterial responses to periodic micropillar array. *Journal of Biomedical Materials Research - Part A*, **2015**, 103, 384-96	5.4	40
93	Micro/nano-structured TiO surface with dual-functional antibacterial effects for biomedical applications. *Bioactive Materials*, **2019**, 4, 346-357	16.7	39
92	Pulse Electrochemical Driven Rapid Layer-by-Layer Assembly of Polydopamine and Hydroxyapatite Nanofilms via Alternative Redox Synthesis for Bone Regeneration. *ACS Biomaterials Science and Engineering*, **2016**, 2, 920-928	5.5	36
91	Effects of microtopographic patterns on platelet adhesion and activation on titanium oxide surfaces. *Journal of Biomedical Materials Research - Part A*, **2013**, 101, 622-32	5.4	33
90	Ab initio simulation on the crystal structure and elastic properties of carbonated apatite. *Journal of the Mechanical Behavior of Biomedical Materials*, **2013**, 26, 59-67	4.1	32
89	Hydrothermal growth of biomimetic carbonated apatite nanoparticles with tunable size, morphology and ultrastructure. *CrystEngComm*, **2013**, 15, 2137	3.3	30
88	Mussel-inspired graphene oxide nanosheet-enwrapped Ti scaffolds with drug-encapsulated gelatin microspheres for bone regeneration. *Biomaterials Science*, **2018**, 6, 538-549	7.4	29
87	Cyclic phase transformation behavior of nanocrystalline NiTi at microscale. *Acta Materialia*, **2020**, 185, 507-517	8.4	29
86	A resilient and flexible chitosan/silk cryogel incorporated Ag/Sr co-doped nanoscale hydroxyapatite for osteoinductivity and antibacterial properties. *Journal of Materials Chemistry B*, **2018**, 6, 7427-7438	7.3	29
85	Porous titanium scaffolds with self-assembled micro/nano-hierarchical structure for dual functions of bone regeneration and anti-infection. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 3482-3492	5.4	28
84	Growth of one-dimensional single-crystalline hydroxyapatite nanorods. *Journal of Crystal Growth*, **2012**, 349, 75-82	1.6	27
83	Synthesis and characterization of nano-crystalline calcium phosphates with EDTA-assisted hydrothermal method. *Materials & Design*, **2010**, 31, 1691-1694		27
82	Conductive Cellulose Bio-Nanosheets Assembled Biostable Hydrogel for Reliable Bioelectronics. *Advanced Functional Materials*, **2021**, 31, 2010465	15.6	27

81	Bioinspired Highly Anisotropic, Ultrastrong and Stiff, and Osteoconductive Mineralized Wood Hydrogel Composites for Bone Repair. *Advanced Functional Materials*, **2021**, 31, 2010068	15.6	26
80	In-situ formed heterogeneous grain structure in spark-plasma-sintered CoCrFeMnNi high-entropy alloy overcomes the strength-ductility trade-off. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2020**, 771, 138625	5.3	25
79	Experimental and simulation studies of strontium/fluoride-codoped hydroxyapatite nanoparticles with osteogenic and antibacterial activities. *Colloids and Surfaces B: Biointerfaces*, **2019**, 182, 110359	6	23
78	Theoretical analysis of protein effects on calcium phosphate precipitation in simulated body fluid. *CrystEngComm*, **2012**, 14, 5870	3.3	22
77	Nanoscale self-organization reaction in Cu-Ag alloys subjected to dry sliding and its impact on wear resistance. *Tribology International*, **2016**, 100, 420-429	4.9	21
76	Overcoming the strength-ductility trade-off via the formation of nanoscale Cr-rich precipitates in an ultrafine-grained FCC CrFeNi medium entropy alloy matrix. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 762, 138107	5.3	21
75	Polydopamine mediated assembly of hydroxyapatite nanoparticles and bone morphogenetic protein-2 on magnesium alloys for enhanced corrosion resistance and bone regeneration. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 2750-2761	5.4	20
74	Integrity and zeta potential of fluoridated hydroxyapatite nanothick coatings for biomedical applications. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 1046-56	4.1	20
73	Mussel-inspired nano-multilayered coating on magnesium alloys for enhanced corrosion resistance and antibacterial property. *Colloids and Surfaces B: Biointerfaces*, **2017**, 157, 432-439	6	19
72	Cicada-inspired fluoridated hydroxyapatite nanostructured surfaces synthesized by electrochemical additive manufacturing. *Materials and Design*, **2020**, 193, 108790	8.1	19
71	Fabrication of high strength, antibacterial and biocompatible Ti-5Mo-5Ag alloy for medical and surgical implant applications. *Materials Science and Engineering C*, **2020**, 106, 110165	8.3	19
70	Bioinspired adhesive and tumor microenvironment responsive nanoMOFs assembled 3D-printed scaffold for anti-tumor therapy and bone regeneration. *Nano Today*, **2021**, 39, 101182	17.9	19
69	Fabrication, tribological and corrosion behaviors of ultra-fine grained Co-28Cr-6Mo alloy for biomedical applications. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 60, 139-147	4.1	18
68	Antibacterial activity, corrosion resistance and wear behavior of spark plasma sintered Ta-5Cu alloy for biomedical applications. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 74, 315-323	4.1	17
67	Effects of grain size on compressive behavior of NiTi polycrystalline superelastic macro- and micropillars. *Materials Letters*, **2018**, 214, 53-55	3.3	17
66	Achieving exceptional wear resistance in a compositionally complex alloy via tuning the interfacial structure and chemistry. *Acta Materialia*, **2020**, 188, 697-710	8.4	16
65	Carbonated Apatite, Type-A or Type-B?. *Key Engineering Materials*, **2011**, 493-494, 293-297	0.4	16
64	Bioadhesive injectable hydrogel with phenolic carbon quantum dot supported Pd single atom nanozymes as a localized immunomodulation niche for cancer catalytic immunotherapy. *Biomaterials*, **2021**, 280, 121272	15.6	16

63	Graphene oxide nanolayers as nanoparticle anchors on biomaterial surfaces with nanostructures and charge balance for bone regeneration. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 1311-1323	5.4	15
62	Sliding wear induced subsurface microstructural evolution in nanocrystalline Nb-Ag binary alloys and its impact on tribological performance. *Wear*, **2017**, 392-393, 69-76	3.5	14
61	Cancellous-Bone-like Porous Iron Scaffold Coated with Strontium Incorporated Octacalcium Phosphate Nanowhiskers for Bone Regeneration. *ACS Biomaterials Science and Engineering*, **2019**, 5, 509-518	5.5	14
60	Chitosan/bovine serum albumin co-micropatterns on functionalized titanium surfaces and their effects on osteoblasts. *Journal of Materials Science: Materials in Medicine*, **2013**, 24, 489-502	4.5	14
59	Tribological and corrosion behaviors of bulk Cu W nanocomposites fabricated by mechanical alloying and warm pressing. *Journal of Alloys and Compounds*, **2016**, 676, 164-172	5.7	14
58	Engineering High-Resolution Micropatterns Directly onto Titanium with Optimized Contact Guidance to Promote Osteogenic Differentiation and Bone Regeneration. *ACS Applied Materials & Interfaces*, **2019**, 11, 43888-43901	9.5	13
57	Calcium phosphate bioceramics induce mineralization modulated by proteins. *Materials Science and Engineering C*, **2013**, 33, 3245-55	8.3	13
56	Fabrication and evaluation of bulk nanostructured cobalt intended for dental and orthopedic implants. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 68, 115-123	4.1	12
55	Bio-inspired immobilization of strontium substituted hydroxyapatite nanocrystals and alendronate on the surface of AZ31 magnesium alloy for osteoporotic fracture repair. *Surface and Coatings Technology*, **2017**, 313, 381-390	4.4	12
54	A strong, wear- and corrosion-resistant, and antibacterial Co□0 at.% Cr□ at.% Ag ternary alloy for medical implants. *Materials and Design*, **2019**, 184, 108190	8.1	12
53	Novel niobium and silver toughened hydroxyapatite nanocomposites with enhanced mechanical and biological properties for load-bearing bone implants. *Applied Materials Today*, **2019**, 15, 531-542	6.6	12
52	Direct measurement of the maximum pinning force during particle-grain boundary interaction via molecular dynamics simulations. *Acta Materialia*, **2018**, 148, 1-8	8.4	12
51	Mussel-inspired nano-building block assemblies for mimicking extracellular matrix microenvironments with multiple functions. *Biofabrication*, **2017**, 9, 035005	10.5	12
50	Computer simulation of ions doped hydroxyapatite: A brief review. *Journal Wuhan University of Technology, Materials Science Edition*, **2017**, 32, 978-987	1	12
49	Effects of atomic-level nano-structured hydroxyapatite on adsorption of bone morphogenetic protein-7 and its derived peptide by computer simulation. *Scientific Reports*, **2017**, 7, 15152	4.9	12
48	In Situ Construction of an Ultra-Stable Conductive Composite Interface for High-Voltage All-Solid-State Lithium Metal Batteries. *Angewandte Chemie*, **2020**, 132, 11882-11886	3.6	11
47	Cancellous bone-like porous Fe@Zn scaffolds with core-shell-structured skeletons for biodegradable bone implants. *Acta Biomaterialia*, **2021**, 121, 665-681	10.8	11
46	Microstructure, Mechanical Properties, and Sliding Wear Behavior of Spark Plasma Sintered Ti-Cu Alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2018**, 49, 6147-6160	2.3	11

45	Zener pinning by coherent particles: pinning efficiency and particle reorientation mechanisms. *Modelling and Simulation in Materials Science and Engineering*, **2017**, 25, 065008	2	10
44	Surfactant-free electrochemical synthesis of fluoridated hydroxyapatite nanorods for biomedical applications. *Ceramics International*, **2019**, 45, 17336-17343	5.1	9
43	Microstructure and dry sliding wear behavior of ultrafine-grained Co-30 at% Cr alloy at room and elevated temperatures. *Journal of Alloys and Compounds*, **2019**, 770, 276-284	5.7	9
42	Forced atomic mixing of immiscible Nb-Ag alloys by severe plastic deformation. *Materials Letters*, **2017**, 207, 141-144	3.3	9
41	Interaction Behaviors of Fibrinopeptide-A and Graphene with Different Functional Groups: A Molecular Dynamics Simulation Approach. *Journal of Physical Chemistry B*, **2017**, 121, 7907-7915	3.4	9
40	A study of degradation behaviour and biocompatibility of Zn-Fe alloy prepared by electrodeposition. *Materials Science and Engineering C*, **2020**, 117, 111295	8.3	9
39	Molecular dynamics simulation of protein effects on interfacial energy between HA surfaces and solutions. *Materials Letters*, **2014**, 123, 191-194	3.3	8
38	Enhance Fatigue Resistance of Nanocrystalline NiTi by Laser Shock Peening. *Shape Memory and Superelasticity*, **2019**, 5, 436-443	2.8	8
37	Effects of nanocrystalline microstructure on the dry sliding wear behavior of a Cu-10 at% Ag-10 at% W ternary alloy against stainless steel. *Wear*, **2018**, 402-403, 1-10	3.5	7
36	A dual-pillar method for measurement of stress-strain response of material at microscale. *Scripta Materialia*, **2019**, 172, 138-143	5.6	7
35	Study of protein adsorption on octacalcium phosphate surfaces by molecular dynamics simulations. *Journal of Materials Science: Materials in Medicine*, **2012**, 23, 1045-53	4.5	7
34	The Synergy of Topographical Micropatterning and Ta|TaCu Bilayered Thin Film on Titanium Implants Enables Dual-Functions of Enhanced Osteogenesis and Anti-Infection. *Advanced Healthcare Materials*, **2021**, 10, e2002020	10.1	7
33	Significant reduction in friction and wear of a high-entropy alloy via the formation of self-organized nanolayered structure. *Journal of Materials Science and Technology*, **2021**, 73, 1-8	9.1	7
32	Achieving high strength and high ductility in a high-entropy alloy by a combination of a heterogeneous grain structure and oxide-dispersion strengthening. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 805, 140544	5.3	7
31	Introducing Laves phase strengthening into an ultrafine-grained equiatomic CrFeNi alloy by niobium addition. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 806, 140611	5.3	7
30	The interaction of chitosan and BMP-2 tuned by deacetylation degree and pH value. *Journal of Biomedical Materials Research - Part A*, **2019**, 107, 769-779	5.4	7
29	In situ alloying based laser powder bed fusion processing of □TiMo alloy to fabricate functionally graded composites. *Composites Part B: Engineering*, **2021**, 222, 109059	10	7
28	Controllable phase transformation of fluoridated calcium phosphate ultrathin coatings for biomedical applications. *Journal of Alloys and Compounds*, **2020**, 847, 155920	5.7	6

27	Size effect on the mechanical behavior of single crystalline Fe-31.2Pd (at.%) micropillars. *Scripta Materialia*, **2018**, 152, 141-145	5.6	6
26	Sliding wear of CoCrNi medium-entropy alloy at elevated temperatures: Wear mechanism transition and subsurface microstructure evolution. *Wear*, **2019**, 440-441, 203108	3.5	6
25	Laser surface treatment-introduced gradient nanostructured TiZrHfTaNb refractory high-entropy alloy with significantly enhanced wear resistance. *Journal of Materials Science and Technology*, **2022**, 110, 43-56	9.1	6
24	Progress in 11HSD1 inhibitors for the treatment of metabolic diseases: A comprehensive guide to their chemical structure diversity in drug development. *European Journal of Medicinal Chemistry*, **2020**, 191, 112134	6.8	5
23	Microstructure, sliding wear and corrosion behavior of bulk nanostructured Co-Ag immiscible alloys. *Journal of Alloys and Compounds*, **2018**, 748, 961-969	5.7	5
22	Ultrahigh radiation resistance of nanocrystalline diamond films for solid lubrication in harsh radiative environments. *Carbon*, **2021**, 182, 525-536	10.4	5
21	Three-dimensional alloy interface between Li6.4La3Zr1.4Ta0.6O12 and Li metal to achieve excellent cycling stability of all-solid-state battery. *Journal of Power Sources*, **2021**, 505, 230062	8.9	5
20	Microstructure, Mechanical Properties, and Sliding Wear Behavior of Oxide-Dispersion-Strengthened FeMnNi Alloy Fabricated by Spark Plasma Sintering. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2020**, 51, 2796-2810	2.3	4
19	Significantly Enhanced Wear Resistance of an Ultrafine-Grained CrFeNi Medium-Entropy Alloy at Elevated Temperatures. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2020**, 51, 2834-2850	2.3	4
18	Tuning the mechanical properties of Fex(CoMoNi)100-x high-entropy alloys via controlled formation of hard phase. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2020**, 773, 138881	5.3	4
17	Superelastic oxide micropillars enabled by surface tension-modulated 90domain switching with excellent fatigue resistance. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
16	Sliding wear of nanocrystalline Nb-Ag at elevated temperatures: Evolution of subsurface microstructure and its correlation with wear performance. *Wear*, **2018**, 414-415, 251-261	3.5	4
15	Ab Initio Simulations on the Carbonated Apatite Structure. *Key Engineering Materials*, **2012**, 529-530, 1-6	0.4	3
14	Controlled pVEGF Delivery via a Gene-Activated Matrix Comprised of a Peptide-Modified Non-viral Vector and a Nanofibrous Scaffold for Skin Wound Healing. *Acta Biomaterialia*, **2021**, 140, 149-149	10.8	3
13	Achieving low wear in a phase reinforced high-entropy alloy and associated subsurface microstructure evolution. *Wear*, **2021**, 474-475, 203755	3.5	3
12	Sliding Wear Behavior of Spark Plasma-Sintered Cu8 Wt Pct Cr Alloy at Room and Elevated Temperatures. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2019**, 50, 3132-3147	2.3	2
11	The Size Dependent Deformation and Strengthening Mechanisms of Nanolayered Co/Ag Micropillars. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2019**, 50, 5640-5649	2.3	2
10	Resolving the Interface of Calcium Phosphate Formation on the Porous Bioceramics In Vitro. *Journal of the American Ceramic Society*, **2016**, 99, 4107-4112	3.8	2

9	A high strength and low modulus metastable β-Ti-12Mo-6Zr-2Fe alloy fabricated by laser powder bed fusion in-situ alloying. *Additive Manufacturing*, **2021**, 37, 101708	6.1	2
8	A high strength, wear and corrosion-resistant, antibacterial and biocompatible Nb-5 at.% Ag alloy for dental and orthopedic implants. *Journal of Materials Science and Technology*, **2021**, 80, 266-278	9.1	2
7	Laves phase strengthening in ultrafine-grained CoCrTa micropillars under uniaxial compression at modest temperature. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2020**, 791, 139782	5.3	1
6	Ultrahigh cycle fatigue of nanocrystalline NiTi tubes for elastocaloric cooling. *Applied Materials Today*, **2022**, 26, 101377	6.6	1
5	Grain boundary migration and Zener pinning in a nanocrystalline CuAg alloy. *Modelling and Simulation in Materials Science and Engineering*, **2020**, 28, 065017	2	1
4	Superelasticity of micropillar of single crystalline Fe3Pt. *Materialia*, **2020**, 9, 100534	3.2	1
3	Atomic layer deposition of zinc oxide onto 3D porous iron scaffolds for bone repair: in vitro degradation, antibacterial activity and cytocompatibility evaluation. *Rare Metals*,1	5.5	0
2	Measuring fracture toughness of human dental enamel at small scale using notched microcantilever beams. *Biosurface and Biotribology*, **2021**, 7, 228	1	0
1	Measurement of two-dimensional residual stress in nanocrystalline superelastic NiTi fabricated with pre-strain laser shock peening. *Mathematics and Mechanics of Solids*,108128652210905	2.3	