Robert O. Ritchie

List of Publications by Year
in descending order

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748	73,623	511	893
papers	citations	128 h-index	242 g-index

777	777	777	37144
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bioinspired fish-scale-like magnesium composites strengthened by contextures of continuous titanium fibers: Lessons from nature. Journal of Magnesium and Alloys, 2023, 11, 869-881.	11.9	6
2	Manipulating internal flow units toward favorable plasticity in Zr-based bulk-metallic glasses by hydrogenation. Journal of Materials Science and Technology, 2022, 102, 36-45.	10.7	16
3	Bioinspired tungsten-copper composites with Bouligand-type architectures mimicking fish scales. Journal of Materials Science and Technology, 2022, 96, 21-30.	10.7	16
4	Physical Properties of High Entropy Alloys. , 2022, , 474-483.		0
5	Bone manganese is a sensitive biomarker of ongoing elevated manganese exposure, but does not accumulate across the lifespan. Environmental Research, 2022, 204, 112355.	7.5	8
6	Fatigue-crack propagation behavior in a high-carbon chromium SUJ2 bearing steel: Role of microstructure. International Journal of Fatigue, 2022, 156, 106693.	5.7	11
7	Comparison of toughening mechanisms in natural silk-reinforced composites with three epoxy resin matrices. Composites Part A: Applied Science and Manufacturing, 2022, 154, 106760.	7.6	32
8	Cantor-derived medium-entropy alloys: bridging the gap between traditional metallic and high-entropy alloys. Journal of Materials Research and Technology, 2022, 17, 1868-1895.	5.8	44
9	Fracture properties of high-entropy alloys. MRS Bulletin, 2022, 47, 176-185.	3.5	11
10	High-entropy materials. MRS Bulletin, 2022, 47, 145-150.	3.5	22
11	Role of chemical disorder on radiation-induced defect production and damage evolution in NiFeCoCr. Journal of Nuclear Materials, 2022, 565, 153689.	2.7	3
12	Interfacial characterization and its influence on the corrosion behavior of Mg-SiO2 nanocomposites. Acta Materialia, 2022, 230, 117840.	7.9	13
13	Response to Comment on â€œCryoforged nanotwinned titanium with ultrahigh strength and ductilityâ€. Science, 2022, 376, eabo5247.	12.6	2
14	Conductive Ink with Circular Life Cycle for Printed Electronics. Advanced Materials, 2022, 34, e2202177.	21.0	20
15	Anomalous size effect on yield strength enabled by compositional heterogeneity in high-entropy alloy nanoparticles. Nature Communications, 2022, 13, 2789.	12.8	26
16	On the damage tolerance of 3-D printed Mg-Ti interpenetrating-phase composites with bioinspired architectures. Nature Communications, 2022, 13, .	12.8	58
17	Understanding effects of chemical complexity on helium bubble formation in Ni-based concentrated solid solution alloys based on elemental segregation measurements. Journal of Nuclear Materials, 2022, 569, 153902.	2.7	4
18	Optimizing the microstructures and mechanical properties of Al-Cu-based alloys with large solidification intervals by coupling travelling magnetic fields with sequential solidification. Journal of Materials Science and Technology, 2021, 61, 100-113.	10.7	18

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19	Annealed microstructure dependent corrosion behavior of Ti-6Al-3Nb-2Zr-1Mo alloy. Journal of Materials Science and Technology, 2021, 62, 234-248.	10.7	68
20	Origin of strong solid solution strengthening in the CrCoNi-W medium entropy alloy. Journal of Materials Science and Technology, 2021, 73, 101-107.	10.7	39
21	Heterostructured materials: superior properties from hetero-zone interaction. Materials Research Letters, 2021, 9, 1-31.	8.7	505
22	Diffusion-mediated chemical concentration variation and void evolution in ion-irradiated NiCoFeCr high-entropy alloy. Journal of Materials Research, 2021, 36, 298-310.	2.6	15
23	Application to subcritical crack growth. , 2021, , 101-138.		0
24	Micromechanics modeling of fracture. , 2021, , 81-99.		1
25	Nonlinear-elastic fracture mechanics (NLEFM). , 2021, , 49-74.		0
26	Linear-elastic fracture mechanics (LEFM). , 2021, , 11-48.		1
27	Universal nature of the saddle states of structural excitations in metallic glasses. Materials Today Physics, 2021, 17, 100359.	6.0	20
28	Magnetically driven short-range order can explain anomalous measurements in CrCoNi. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	56
29	Architected cellular materials: A review on their mechanical properties towards fatigue-tolerant design and fabrication. Materials Science and Engineering Reports, 2021, 144, 100606.	31.8	316
30	Near-complete depolymerization of polyesters with nano-dispersed enzymes. Nature, 2021, 592, 558-563.	27.8	129
31	Strong and Tough Bioinspired Additive-Manufactured Dual-Phase Mechanical Metamaterial Composites. Journal of the Mechanics and Physics of Solids, 2021, 149, 104341.	4.8	72
32	Compressive properties of 3-D printed Mgâ€“NiTi interpenetrating-phase composite: Effects of strain rate and temperature. Composites Part B: Engineering, 2021, 215, 108783.	12.0	16
33	Toughening materials: enhancing resistance to fracture. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200437.	3.4	32
34	Hydration-induced reversible deformation of the pine cone. Acta Biomaterialia, 2021, 128, 370-383.	8.3	24
35	In situ observation of the deformation and fracture of an alumina-alumina ceramic-matrix composite at elevated temperature using x-ray computed tomography. Journal of the European Ceramic Society, 2021, 41, 4217-4230.	5.7	20
36	Impact of hydration on the mechanical properties and damage mechanisms of natural silk fibre reinforced composites. Composites Part A: Applied Science and Manufacturing, 2021, 147, 106458.	7.6	11

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37	Atomistic simulations of dislocation mobility in refractory high-entropy alloys and the effect of chemical short-range order. Nature Communications, 2021, 12, 4873.	12.8	138
38	An Amorphous Periâ€Implant Ligament with Combined Osteointegration and Energyâ€Dissipation. Advanced Materials, 2021, 33, e2103727.	21.0	18
39	The dependence of stress and strain rate on the deformation behavior of aÂNiâ€based single crystal superalloy at 1050Â°C. International Journal of Mechanical System Dynamics, 2021, 1, 121-131.	2.8	6
40	Cryoforged nanotwinned titanium with ultrahigh strength and ductility. Science, 2021, 373, 1363-1368.	12.6	155
41	Flaw-insensitive fracture of a micrometer-sized brittle metallic glass. Acta Materialia, 2021, 218, 117219.	7.9	17
42	Compression fatigue properties and damage mechanisms of a bioinspired nacre-like ceramic-polymer composite. Scripta Materialia, 2021, 203, 114089.	5.2	16
43	Full-field characterisation of oxide-oxide ceramic-matrix composites using X-ray computed micro-tomography and digital volume correlation under load at high temperatures. Materials and Design, 2021, 208, 109899.	7.0	21
44	Dissipative dual-phase mechanical metamaterial composites via architectural design. Extreme Mechanics Letters, 2021, 48, 101442.	4.1	30
45	Dual-gradient structure leads to optimized combination of high fracture resistance and strength-ductility synergy with minimized final catastrophic failure. Journal of Materials Research and Technology, 2021, 15, 901-910.	5.8	7
46	First-principles calculation of lattice distortions in four single phase high entropy alloys with experimental validation. Materials and Design, 2021, 209, 110071.	7.0	15
47	Collagen Fiber Orientation Is Coupled with Specific Nano-Compositional Patterns in Dark and Bright Osteons Modulating Their Biomechanical Properties. ACS Nano, 2021, 15, 455-467.	14.6	28
48	Amorphization in extreme deformation of the CrMnFeCoNi high-entropy alloy. Science Advances, 2021, 7, .	10.3	140
49	Modeling the Hydrogen Effect on the Constitutive Response of a Low Carbon Steel in Cyclic Loading. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	3
50	Diffusion-mediated chemical concentration variation and void evolution in ion-irradiated NiCoFeCr high-entropy alloy. Journal of Materials Research, 2021, 36, 1-13.	2.6	3
51	The dynamic evolution of swelling in nickel concentrated solid solution alloys through inÂsitu property monitoring. Applied Materials Today, 2021, 25, 101187.	4.3	4
52	An in situ ambient and cryogenic transmission electron microscopy study of the effects of temperature on dislocation behavior in CrCoNi-based high-entropy alloys with low stacking-fault energy. Applied Physics Letters, 2021, 119, .	3.3	8
53	Nanoparticle additions promote outstanding fracture toughness and fatigue strength in a cast Alâ€“Cu alloy. Materials and Design, 2020, 186, 108221.	7.0	17
54	On the exceptional damage-tolerance of gradient metallic materials. Materials Today, 2020, 32, 94-107.	14.2	89

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55	Intrinsic toughness of the bulk-metallic glass Vitreloy 105 measured using micro-cantilever beams. Acta Materialia, 2020, 183, 242-248.	7.9	20
56	Electron-phonon coupling induced defect recovery and strain relaxation in Ni and equiatomic NiFe alloy. Computational Materials Science, 2020, 173, 109394.	3.0	9
57	Structural Orientation and Anisotropy in Biological Materials: Functional Designs and Mechanics. Advanced Functional Materials, 2020, 30, 1908121.	14.9	59
58	On the Strength of Hair across Species. Matter, 2020, 2, 136-149.	10.0	18
59	Interfacial toughening effect of suture structures. Acta Biomaterialia, 2020, 102, 75-82.	8.3	28
60	X-ray tomography study on the crushing strength and irradiation behaviour of dedicated tristructural isotropic nuclear fuel particles at 1000ÂÂ°C. Materials and Design, 2020, 187, 108382.	7.0	13
61	From suppressed void growth to significant void swelling in NiCoFeCr complex concentrated solid-solution alloy. Materialia, 2020, 9, 100603.	2.7	22
62	Processing, Microstructures and Mechanical Properties of a Ni-Based Single Crystal Superalloy. Crystals, 2020, 10, 572.	2.2	21
63	Tough Nature-Inspired Helicoidal Composites with Printing-Induced Voids. Cell Reports Physical Science, 2020, 1, 100109.	5.6	27
64	The role of collagen in the dermal armor of the boxfish. Journal of Materials Research and Technology, 2020, 9, 13825-13841.	5.8	7
65	Offering Toughness and Protection, Arapaima Scales Provide Effective Defense against Predation. Matter, 2020, 3, 1979-1980.	10.0	0
66	On the gular sac tissue of the brown pelican: Structural characterization and mechanical properties. Acta Biomaterialia, 2020, 118, 161-181.	8.3	3
67	Ab initio modeling of the energy landscape for screw dislocations in body-centered cubic high-entropy alloys. Npj Computational Materials, 2020, 6, .	8.7	58
68	Structure and Mechanical Adaptability of a Modern Elasmoid Fish Scale from the Common Carp. Matter, 2020, 3, 842-863.	10.0	47
69	Nacre toughening due to cooperative plastic deformation of stacks of co-oriented aragonite platelets. Communications Materials, 2020, 1, .	6.9	24
70	Human Cortical Bone as a Structural Material. , 2020, , 20-44.		0
71	Effects of cryogenic temperature and grain size on fatigue-crack propagation in the medium-entropy CrCoNi alloy. Acta Materialia, 2020, 200, 351-365.	7.9	76
72	Short-range order and its impact on the CrCoNi medium-entropy alloy. Nature, 2020, 581, 283-287.	27.8	672

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73	Making ultrastrong steel tough by grain-boundary delamination. Science, 2020, 368, 1347-1352.	12.6	200
74	3D printed Mg-NiTi interpenetrating-phase composites with high strength, damping capacity, and energy absorption efficiency. Science Advances, 2020, 6, eaba5581.	10.3	87
75	Active defense mechanisms of thorny catfish. Materials Today, 2020, 38, 35-48.	14.2	8
76	Dislocation loop evolution and radiation hardening in nickel-based concentrated solid solution alloys. Journal of Nuclear Materials, 2020, 538, 152247.	2.7	22
77	The influence of mean strain on the high-cycle fatigue of Nitinol with application to medical devices. Journal of the Mechanics and Physics of Solids, 2020, 143, 104057.	4.8	24
78	Mechanical properties and toughening mechanisms of natural silkworm silks and their composites. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 110, 103942.	3.1	18
79	Controlled Cryogelation and Catalytic Cross-Linking Yields Highly Elastic and Robust Silk Fibroin Scaffolds. ACS Biomaterials Science and Engineering, 2020, 6, 4512-4522.	5.2	13
80	Eutectic Crystallization: Multiâ€Step Crystallization of Selfâ€Organized Spiral Eutectics (Small 8/2020). Small, 2020, 16, 2070039.	10.0	0
81	Interpreting nanovoids in atom probe tomography data for accurate local compositional measurements. Nature Communications, 2020, 11, 1022.	12.8	23
82	Extreme Fermi Surface Smearing in a Maximally Disordered Concentrated Solid Solution. Physical Review Letters, 2020, 124, 046402.	7.8	20
83	Compressive ductility and fracture resistance in CuZr-based shape-memory metallic-glass composites. International Journal of Plasticity, 2020, 128, 102687.	8.8	33
84	Real-time observations of TRIP-induced ultrahigh strain hardening in a dual-phase CrMnFeCoNi high-entropy alloy. Nature Communications, 2020, 11, 826.	12.8	165
85	Multiâ€Step Crystallization of Selfâ€Organized Spiral Eutectics. Small, 2020, 16, e1906146.	10.0	11
86	Unfolding the complexity of phonon quasi-particle physics in disordered materials. Npj Computational Materials, 2020, 6, .	8.7	22
87	Scalable Electrically Conductive Spray Coating Based on Block Copolymer Nanocomposites. ACS Applied Materials & Interfaces, 2020, 12, 8687-8694.	8.0	12
88	Longâ€Term Immobilization in Elderly Females Causes a Specific Pattern of Cortical Bone and Osteocyte Deterioration Different From Postmenopausal Osteoporosis. Journal of Bone and Mineral Research, 2020, 35, 1343-1351.	2.8	47
89	Ice-templated porous tungsten and tungsten carbide inspired by natural wood. Journal of Materials Science and Technology, 2020, 45, 187-197.	10.7	33
90	Site occupancy of alloying elements in Î³â€² phase of nickel-base single crystal superalloys. Intermetallics, 2020, 121, 106772.	3.9	23

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91	Tensile creep behavior of an equiatomic CoCrNi medium entropy alloy. Intermetallics, 2020, 121, 106775.	3.9	23
92	On the impact toughness of gradient-structured metals. Acta Materialia, 2020, 193, 125-137.	7.9	70
93	On the Fracture Behavior of Bulk Metallic Glasses. Structural Integrity, 2019, , 331-332.	1.4	0
94	Interpreting Voids in Atom Probe Tomography Data via Experiment and Theory. Microscopy and Microanalysis, 2019, 25, 290-291.	0.4	0
95	Investigating Effects of Alloy Chemical Complexity on Helium Bubble Formation by Accurate Segregation Measurements Using Atom Probe Tomography. Microscopy and Microanalysis, 2019, 25, 1558-1559.	0.4	6
96	Synthesis of bioinspired ice-templated bulk metallic glass-alumina composites with intertwined dendritic structure. Scripta Materialia, 2019, 172, 159-164.	5.2	13
97	Integrating tough Antheraea pernyi silk and strong carbon fibres for impact-critical structural composites. Nature Communications, 2019, 10, 3786.	12.8	70
98	Biomimetics: On the Origins of Fracture Toughness in Advanced Teleosts: How the Swordfish Sword's Bone Structure and Composition Allow for Slashing under Water to Kill or Stun Prey (Adv. Sci.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 457	12.8	0
99	Hyperelastic phase-field fracture mechanics modeling of the toughening induced by Bouligand structures in natural materials. Journal of the Mechanics and Physics of Solids, 2019, 131, 204-220.	4.8	50
100	Multiscale Toughening Mechanisms in Biological Materials and Bioinspired Designs. Advanced Materials, 2019, 31, e1901561.	21.0	342
101	Plastic deformation mechanism of Tiâ€“Nbâ€“Taâ€“Zrâ€“O alloy at cryogenic temperatures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 765, 138293.	5.6	11
102	Arapaima Fish Scale: One of the Toughest Flexible Biological Materials. Matter, 2019, 1, 1557-1566.	10.0	40
103	Effects of 3d electron configurations on helium bubble formation and void swelling in concentrated solid-solution alloys. Acta Materialia, 2019, 181, 519-529.	7.9	40
104	Natureâ€Inspired Nacreâ€Like Composites Combining Human Toothâ€Matching Elasticity and Hardness with Exceptional Damage Tolerance. Advanced Materials, 2019, 31, e1904603.	21.0	73
105	Four Dimensional Scanning Transmission Electron Microscopy during the in situ Annealing of a CuZrAl Bulk Metallic Glass. Microscopy and Microanalysis, 2019, 25, 1470-1471.	0.4	0
106	Strong, Fracture-Resistant Biomimetic Silicon Carbide Composites with Laminated Interwoven Nanoarchitectures Inspired by the Crustacean Exoskeleton. ACS Applied Nano Materials, 2019, 2, 1111-1119.	5.0	22
107	Facile self-assembly synthesis of Î³-Fe2O3 /graphene oxide for enhanced photo-Fenton reaction. Environmental Pollution, 2019, 248, 229-237.	7.5	59
108	Bioinspired Nacreâ€Like Alumina with a Metallic Nickel Compliant Phase Fabricated by Sparkâ€Plasma Sintering. Small, 2019, 15, 1900573.	10.0	28

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109	High-entropy alloys. Nature Reviews Materials, 2019, 4, 515-534.	48.7	2,188
110	Helical van der Waals crystals with discretized Eshelby twist. Nature, 2019, 570, 358-362.	27.8	91
111	Irradiation effects of medium-entropy alloy NiCoCr with and without pre-indentation. Journal of Nuclear Materials, 2019, 524, 60-66.	2.7	25
112	Direct measurement of nanostructural change during in situ deformation of a bulk metallic glass. Nature Communications, 2019, 10, 2445.	12.8	46
113	On the onset of deformation twinning in the CrFeMnCoNi high-entropy alloy using a novel tensile specimen geometry. Intermetallics, 2019, 110, 106469.	3.9	21
114	Defect evolution in Ni and NiCoCr by in situ 2.8â€¯MeV Au irradiation. Journal of Nuclear Materials, 2019, 523, 502-509.	2.7	15
115	Temperature-dependent defect accumulation and evolution in Ni-irradiated NiFe concentrated solid-solution alloy. Journal of Nuclear Materials, 2019, 519, 1-9.	2.7	16
116	Investigating sluggish diffusion in a concentrated solid solution alloy using ion irradiation with in situ TEM. Intermetallics, 2019, 110, 106461.	3.9	22
117	Temperature and load-ratio dependent fatigue-crack growth in the CrMnFeCoNi high-entropy alloy. Journal of Alloys and Compounds, 2019, 794, 525-533.	5.5	74
118	How Water Can Affect Keratin: Hydrationâ€Driven Recovery of Bighorn Sheep (Ovis Canadensis) Horns. Advanced Functional Materials, 2019, 29, 1901077.	14.9	29
119	On the Origins of Fracture Toughness in Advanced Teleosts: How the Swordfish Sword's Bone Structure and Composition Allow for Slashing under Water to Kill or Stun Prey. Advanced Science, 2019, 6, 1900287.	11.2	14
120	Structural origins for the generation of strength, ductility and toughness in bulk-metallic glasses using hydrogen microalloying. Acta Materialia, 2019, 171, 216-230.	7.9	47
121	Light but tough bio-inherited materials: Luffa sponge based nickel-plated composites. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 94, 10-18.	3.1	23
122	Mechanical Competence and Bone Quality Develop During Skeletal Growth. Journal of Bone and Mineral Research, 2019, 34, 1461-1472.	2.8	41
123	Shape-preserving machining produces gradient nanolaminate medium entropy alloys with high strain hardening capability. Acta Materialia, 2019, 170, 176-186.	7.9	41
124	Real-time nanoscale observation of deformation mechanisms in CrCoNi-based medium- to high-entropy alloys at cryogenic temperatures. Materials Today, 2019, 25, 21-27.	14.2	167
125	A comparative characterization of defect structure in NiCo and NiFe equimolar solid solution alloys under in situ electron irradiation. Scripta Materialia, 2019, 166, 96-101.	5.2	5
126	Predicting surface deformation during mechanical attrition of metallic alloys. Npj Computational Materials, 2019, 5, .	8.7	23

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127	A natural energy absorbent polymer composite: The equine hoof wall. Acta Biomaterialia, 2019, 90, 267-277.	8.3	47
128	Bioinspired nacre-like alumina with a bulk-metallic glass-forming alloy as a compliant phase. Nature Communications, 2019, 10, 961.	12.8	106
129	Characterization of the Interfacial Toughness in a Novel â€œGaN-on-Diamondâ€•Material for High-Power RF Devices. ACS Applied Electronic Materials, 2019, 1, 354-369.	4.3	13
130	Architecture of high-strength aluminumâ€“matrix composites processed by a novel microcasting technique. NPG Asia Materials, 2019, 11, .	7.9	34
131	Tuning element distribution, structure and properties by composition in high-entropy alloys. Nature, 2019, 574, 223-227.	27.8	874
132	High-temperature damage-tolerance of coextruded, bioinspired (â€œnacre-likeâ€), alumina/nickel compliant-phase ceramics. Scripta Materialia, 2019, 158, 110-115.	5.2	25
133	Mechanical properties of high-entropy alloys with emphasis on face-centered cubic alloys. Progress in Materials Science, 2019, 102, 296-345.	32.8	634
134	Adaptive structural reorientation: Developing extraordinary mechanical properties by constrained flexibility in natural materials. Acta Biomaterialia, 2019, 86, 96-108.	8.3	31
135	Structural architectures with toughening mechanisms in Nature: A review of the materials science of Type-I collagenous materials. Progress in Materials Science, 2019, 103, 425-483.	32.8	78
136	Helium irradiated cavity formation and defect energetics in Ni-based binary single-phase concentrated solid solution alloys. Acta Materialia, 2019, 164, 283-292.	7.9	44
137	Mechanical properties and impact performance of silk-epoxy resin composites modulated by flax fibres. Composites Part A: Applied Science and Manufacturing, 2019, 117, 357-368.	7.6	56
138	Fracture toughness of ultra-high molecular weight polyethylene: A basis for defining the crack-initiation toughness in polymers. Journal of the Mechanics and Physics of Solids, 2019, 122, 435-449.	4.8	9
139	Radiation-induced extreme elastic and inelastic interactions in concentrated solid solutions. Materials and Design, 2018, 150, 1-8.	7.0	15
140	Spatial correlation of elastic heterogeneity tunes the deformation behavior of metallic glasses. Npj Computational Materials, 2018, 4, .	8.7	70
141	A study of size effects in bioinspired, â€œnacre-likeâ€, metal-compliant-phase (nickel-alumina) coextruded ceramics. Acta Materialia, 2018, 148, 147-155.	7.9	56
142	Increasing M₂(dobdc) Loading in Selective Mixed-Matrix Membranes: A Rubber Toughening Approach. Chemistry of Materials, 2018, 30, 1484-1495.	6.7	41
143	Contributions of Material Properties and Structure to Increased Bone Fragility for a Given Bone Mass in the UCD-T2DM Rat Model of Type 2 Diabetes. Journal of Bone and Mineral Research, 2018, 33, 1066-1075.	2.8	57
144	Fatigue as the missing link between bone fragility and fracture. Nature Biomedical Engineering, 2018, 2, 62-71.	22.5	57

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145	Hydrogen-enhanced-plasticity mediated decohesion for hydrogen-induced intergranular and â€œquasi-cleavageâ€•fracture of lath martensitic steels. Journal of the Mechanics and Physics of Solids, 2018, 112, 403-430.	4.8	225
146	Electrically reversible cracks in an intermetallic film controlled by an electric field. Nature Communications, 2018, 9, 41.	12.8	53
147	Microband induced plasticity and the temperature dependence of the mechanical properties of a carbon-doped FeNiMnAlCr high entropy alloy. Materials Characterization, 2018, 139, 373-381.	4.4	44
148	Microscopic mechanisms of deformation transfer in high dynamic range branched nanoparticle deformation sensors. Nature Communications, 2018, 9, 1155.	12.8	4
149	Nature-Inspired Hierarchical Steels. Scientific Reports, 2018, 8, 5088.	3.3	47
150	Influence of compositional complexity on interdiffusion in Ni-containing concentrated solid-solution alloys. Materials Research Letters, 2018, 6, 293-299.	8.7	52
151	Lattice Distortion and Phase Stability of Pd-Doped NiCoFeCr Solid-Solution Alloys. Entropy, 2018, 20, 900.	2.2	27
152	Design and strengthening mechanisms in hierarchical architected materials processed using additive manufacturing. International Journal of Mechanical Sciences, 2018, 149, 150-163.	6.7	91
153	Hydration-induced nano- to micro-scale self-recovery of the tooth enamel of the giant panda. Acta Biomaterialia, 2018, 81, 267-277.	8.3	19
154	Novel Defense Mechanisms in the Armor of the Scales of the â€œLiving Fossilâ€•Coelacanth Fish. Advanced Functional Materials, 2018, 28, 1804237.	14.9	61
155	Melts of CrCoNi-based high-entropy alloys: Atomic diffusion and electronic/atomic structure from ab initio simulation. Applied Physics Letters, 2018, 113, .	3.3	27
156	Irradiation responses and defect behavior of single-phase concentrated solid solution alloys. Journal of Materials Research, 2018, 33, 3077-3091.	2.6	47
157	In situ neutron diffraction study on tensile deformation behavior of carbon-strengthened CoCrFeMnNi high-entropy alloys at room and elevated temperatures. Journal of Materials Research, 2018, 33, 3192-3203.	2.6	7
158	Nanometer-scale gradient atomic packing structure surrounding soft spots in metallic glasses. Npj Computational Materials, 2018, 4, .	8.7	37
159	Enhanced strength and ductility of a tungsten-doped CoCrNi medium-entropy alloy. Journal of Materials Research, 2018, 33, 3301-3309.	2.6	51
160	Single-Phase Concentrated Solid-Solution Alloys: Bridging Intrinsic Transport Properties and Irradiation Resistance. Frontiers in Materials, 2018, 5, .	2.4	45
161	On the theoretical modeling of fatigue crack growth. Journal of the Mechanics and Physics of Solids, 2018, 121, 341-362.	4.8	55
162	Enhanced void swelling in NiCoFeCrPd high-entropy alloy by indentation-induced dislocations. Materials Research Letters, 2018, 6, 584-591.	8.7	46

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163	In situ Nanobeam Electron Diffraction of Bulk Metallic Glasses. Microscopy and Microanalysis, 2018, 24, 206-207.	0.4	1
164	Tunable stacking fault energies by tailoring local chemical order in CrCoNi medium-entropy alloys. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8919-8924.	7.1	495
165	On the Materials Science of Nature's Arms Race. Advanced Materials, 2018, 30, e1705220.	21.0	63
166	Chemical complexity induced local structural distortion in NiCoFeMnCr high-entropy alloy. Materials Research Letters, 2018, 6, 450-455.	8.7	54
167	On the understanding of the effects of sample size on the variability in fracture toughness of bulk metallic glasses. Acta Materialia, 2017, 126, 494-506.	7.9	37
168	Characterizing Photon Reabsorption in Quantum Dot-Polymer Composites for Use as Displacement Sensors. ACS Nano, 2017, 11, 2075-2084.	14.6	32
169	Radiation-induced segregation on defect clusters in single-phase concentrated solid-solution alloys. Acta Materialia, 2017, 127, 98-107.	7.9	212
170	Dislocation mechanisms and 3D twin architectures generate exceptional strength-ductility-toughness combination in CrCoNi medium-entropy alloy. Nature Communications, 2017, 8, 14390.	12.8	344
171	Long-fiber reinforced thermoplastic composite lattice structures: Fabrication and compressive properties. Composites Part A: Applied Science and Manufacturing, 2017, 97, 41-50.	7.6	32
172	X-ray absorption investigation of local structural disorder in Ni1-xFex (xâ€‰=â€‰0.10, 0.20, 0.35, and 0.50) alloys. Journal of Applied Physics, 2017, 121, 165105.	2.5	4
173	Functional gradients and heterogeneities in biological materials: Design principles, functions, and bioinspired applications. Progress in Materials Science, 2017, 88, 467-498.	32.8	554
174	Effect of temperature on the fatigue-crack growth behavior of the high-entropy alloy CrMnFeCoNi. Intermetallics, 2017, 88, 65-72.	3.9	160
175	Multiscale structure and damage tolerance of coconut shells. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 76, 76-84.	3.1	50
176	Synchrotron X-ray micro-tomography at the Advanced Light Source: Developments in high-temperature in-situ mechanical testing. Journal of Physics: Conference Series, 2017, 849, 012043.	0.4	6
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