

Yuri Estrin

List of Publications by Citations

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113
papers

4,868
citations

33
h-index

68
g-index

118
ext. papers

5,709
ext. citations

4.6
avg. IF

6.07
L-index

#	Paper	IF	Citations
113	Producing bulk ultrafine-grained materials by severe plastic deformation. <i>Jom</i> , 2006 , 58, 33-39	2.1	1192
112	Twinning-induced plasticity (TWIP) steels. <i>Acta Materialia</i> , 2018 , 142, 283-362	8.4	590
111	Producing Bulk Ultrafine-Grained Materials by Severe Plastic Deformation: Ten Years Later. <i>Jom</i> , 2016 , 68, 1216-1226	2.1	268
110	Ultra-fast diffusion channels in pure Ni severely deformed by equal-channel angular pressing. <i>Acta Materialia</i> , 2011 , 59, 1974-1985	8.4	182
109	Microstructure-mechanical properties relationships for quenching and partitioning (Q&P) processed steel. <i>Acta Materialia</i> , 2016 , 113, 124-139	8.4	178
108	Accelerated stem cell attachment to ultrafine grained titanium. <i>Acta Biomaterialia</i> , 2011 , 7, 900-6	10.8	101
107	Dislocation density-based finite element analysis of large strain deformation behavior of copper under high-pressure torsion. <i>Acta Materialia</i> , 2014 , 76, 281-293	8.4	94
106	Analytical and numerical approaches to modelling severe plastic deformation. <i>Progress in Materials Science</i> , 2018 , 95, 172-242	42.2	81
105	Effect of the Strain Rate on the TRIP/TWIP Transition in Austenitic Fe-12 pct Mn-0.6 pct C TWIP Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 717-730	2.3	80
104	Constitutive Modeling of the Mechanical Properties of V-added Medium Manganese TRIP Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013 , 44, 3136-3146	2.3	73
103	Architecturing of Metal-Based Composites with Concurrent Nanostructuring: A New Paradigm of Materials Design. <i>Advanced Engineering Materials</i> , 2013 , 15, 336-340	3.5	71
102	Hydroxyapatite-coated magnesium implants with improved in vitro and in vivo biocorrosion, biocompatibility, and bone response. <i>Journal of Biomedical Materials Research - Part A</i> , 2014 , 102, 429-445	5.4	67
101	Plasticity and Grain Boundary Diffusion at Small Grain Sizes. <i>Advanced Engineering Materials</i> , 2010 , 12, 758-764	3.5	67
100	Improving the mechanical properties of pure magnesium by three-roll planetary milling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 612, 287-292	5.3	60
99	Application of a Dislocation Density-Based Constitutive Model to Al-Alloyed TWIP Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013 , 44, 4168-4182	2.3	60
98	Fabrication of porous titanium scaffold with controlled porous structure and net-shape using magnesium as spacer. <i>Materials Science and Engineering C</i> , 2013 , 33, 2808-15	8.3	55
97	Thermal behavior of copper processed by ECAP with and without back pressure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 628, 21-29	5.3	55

96	Bimetallic copper–aluminium tube by severe plastic deformation. <i>Scripta Materialia</i> , 2012 , 66, 1081-1084	5.6	51
95	Twist Extrusion as a Potent Tool for Obtaining Advanced Engineering Materials: A Review . <i>Advanced Engineering Materials</i> , 2017 , 19, 1600873	3.5	49
94	Enhanced Mechanical Performance of Bio-Inspired Hybrid Structures Utilising Topological Interlocking Geometry. <i>Scientific Reports</i> , 2016 , 6, 26706	4.9	48
93	Constitutive Modeling of the Tensile Behavior of Al-TWIP Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012 , 43, 479-490	2.3	48
92	The influence of Mg/Si ratio and Cu content on the stretch formability of 6xxx aluminium alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 651, 688-697	5.3	46
91	Effect of heat treatment on diffusion, internal friction, microstructure and mechanical properties of ultra-fine-grained nickel severely deformed by equal-channel angular pressing. <i>Acta Materialia</i> , 2015 , 82, 11-21	8.4	45
90	Synthesis of Hybrid Materials by Severe Plastic Deformation: A New Paradigm of SPD Processing. <i>Advanced Engineering Materials</i> , 2015 , 17, 1853-1861	3.5	45
89	Deformation-induced phase transformation of Co 20 Cr 26 Fe 20 Mn 20 Ni 14 high-entropy alloy during high-pressure torsion at 77 K. <i>Materials Letters</i> , 2017 , 202, 86-88	3.3	40
88	Gradient structure produced by three roll planetary milling: Numerical simulation and microstructural observations. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 639, 165-172	5.3	40
87	Production and bio-corrosion resistance of porous magnesium with hydroxyapatite coating for biomedical applications. <i>Materials Letters</i> , 2013 , 108, 122-124	3.3	39
86	A Portrait of Copper Processed by Equal Channel Angular Pressing. <i>Materials Transactions</i> , 2008 , 49, 31-37	1.3	39
85	Deformation mechanisms underlying tension–compression asymmetry in magnesium alloy ZK60 revealed by acoustic emission monitoring. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 621, 243-251	5.3	36
84	Highly aligned porous Ti scaffold coated with bone morphogenetic protein-loaded silica/chitosan hybrid for enhanced bone regeneration. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2014 , 102, 913-21	3.5	36
83	Constitutive modeling of deformation behavior of high-entropy alloys with face-centered cubic crystal structure. <i>Materials Research Letters</i> , 2017 , 5, 350-356	7.4	35
82	Diffusion of Ag and Co in ultrafine-grained Ti deformed by equal channel angular pressing. <i>Journal of Applied Physics</i> , 2011 , 110, 083514	2.5	35
81	Improvement of fatigue strength of a Mg–Zn–Zr alloy by integrated extrusion and equal-channel angular pressing. <i>Scripta Materialia</i> , 2012 , 67, 209-212	5.6	34
80	Polyetheretherketone/magnesium composite selectively coated with hydroxyapatite for enhanced in vitro bio-corrosion resistance and biocompatibility. <i>Materials Letters</i> , 2014 , 116, 20-22	3.3	33
79	Percolating network of ultrafast transport channels in severely deformed nanocrystalline metals. <i>Journal of Applied Physics</i> , 2009 , 106, 063502	2.5	32

78	Microstructure and Mechanical Properties of High-Entropy Alloy CoCrFeMnNi Processed by High-Pressure Torsion at 77 K and 300 K. <i>Scientific Reports</i> , 2018 , 8, 11074	4.9	30
77	Enhancement of properties in cast Mg ₉₂ Zn rod processed by severe plastic deformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 615, 198-207	5.3	30
76	Mortarless structures based on topological interlocking. <i>Frontiers of Structural and Civil Engineering</i> , 2012 , 6, 188	2.5	30
75	Improvement of sound absorption and flexural compliance of porous alumina-mullite ceramics by engineering the microstructure and segmentation into topologically interlocked blocks. <i>Journal of the European Ceramic Society</i> , 2013 , 33, 2549-2558	6	29
74	Effect of back pressure during equal-channel angular pressing on deformation-induced porosity in copper. <i>Scripta Materialia</i> , 2013 , 68, 925-928	5.6	27
73	Mechanical strength and biocompatibility of ultrafine-grained commercial purity titanium. <i>BioMed Research International</i> , 2013 , 2013, 914764	3	27
72	Nanomaterials by severe plastic deformation: review of historical developments and recent advances. <i>Materials Research Letters</i> , 2022 , 10, 163-256	7.4	26
71	Design of Architected Materials Based on Mechanically Driven Structural and Compositional Patterning. <i>Advanced Engineering Materials</i> , 2019 , 21, 1900487	3.5	25
70	Effect of pre-ageing on dynamic strain ageing in Al-Mg-Si alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 687, 323-331	5.3	22
69	Reinforcement of polyetheretherketone polymer with titanium for improved mechanical properties and in vitro biocompatibility. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2016 , 104, 141-8	3.5	22
68	Particle evolution in Mg ₉₂ Zn alloy processed by integrated extrusion and equal channel angular pressing: Evaluation by electron microscopy and synchrotron small-angle X-ray scattering. <i>Acta Materialia</i> , 2014 , 72, 110-124	8.4	22
67	Deformation mechanics of non-planar topologically interlocked assemblies with structural hierarchy and varying geometry. <i>Scientific Reports</i> , 2017 , 7, 11844	4.9	22
66	Effect of annealing on percolating porosity in ultrafine-grained copper produced by equal channel angular pressing. <i>Acta Materialia</i> , 2013 , 61, 5477-5486	8.4	21
65	Enhancement of mechanical properties of grade 4 titanium by equal channel angular pressing with billet encapsulation. <i>Materials Letters</i> , 2014 , 114, 144-147	3.3	20
64	Microstructure and electrical conductivity of aluminium/steel bimetallic rods processed by severe plastic deformation. <i>Journal of Materials Science</i> , 2016 , 51, 6860-6875	4.3	20
63	Features of in vitro and in vivo behaviour of magnesium alloy WE43. <i>Materials Letters</i> , 2018 , 215, 308-313	3.3	18
62	Effect of alloy composition and heat treatment on mechanical performance of 6xxx aluminum alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2014 , 24, 2174-2178	3.3	18
61	Ultra-Fast Atomic Transport in Severely Deformed Materials: A Pathway to Applications?. <i>Advanced Engineering Materials</i> , 2010 , 12, 779-785	3.5	18

60	Mechanical Properties, Biodegradation, and Biocompatibility of Ultrafine Grained Magnesium Alloy WE43. <i>Materials</i> , 2019 , 12,	3.5	18
59	Self-organised nanoarchitecture of titanium surfaces influences the attachment of <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i> bacteria. <i>Applied Microbiology and Biotechnology</i> , 2015 , 99, 6831-40	5.7	17
58	The Influence of Si and Mg Content on the Microstructure, Tensile Ductility, and Stretch Formability of 6xxx Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013 , 44, 3970-3983	2.3	17
57	Influence of pre-ageing on the stretch formability of Al-Mg-Si automotive sheet alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 697, 79-85	5.3	14
56	Effect of titanium surface topography on plasma deposition of antibacterial polymer coatings. <i>Applied Surface Science</i> , 2020 , 521, 146375	6.7	14
55	Detailed thermal and material flow analyses of friction stir forming using a three-dimensional particle based model. <i>Journal of Materials Processing Technology</i> , 2016 , 231, 422-430	5.3	14
54	Internally architected materials with directionally asymmetric friction. <i>Scientific Reports</i> , 2015 , 5, 10732	3.9	14
53	The Effect of Equal-Channel Angular Pressing on the Microstructure, the Mechanical and Corrosion Properties and the Anti-Tumor Activity of Magnesium Alloyed with Silver. <i>Materials</i> , 2019 , 12,	3.5	14
52	Sandwich Panels with a Core Segmented into Topologically Interlocked Elements. <i>Advanced Engineering Materials</i> , 2013 , 15, 728-731	3.5	13
51	Architected Lattice Materials with Tunable Anisotropy: Design and Analysis of the Material Property Space with the Aid of Machine Learning. <i>Advanced Engineering Materials</i> , 2020 , 22, 2001069	3.5	12
50	Gallium-containing magnesium alloy for potential use as temporary implants in osteosynthesis. <i>Journal of Magnesium and Alloys</i> , 2020 , 8, 352-363	8.8	12
49	Ultrafine-grained porous titanium and porous titanium/magnesium composites fabricated by space holder-enabled severe plastic deformation. <i>Materials Science and Engineering C</i> , 2016 , 59, 754-765	8.3	12
48	Multicomponent materials from machining chips compacted by equal-channel angular pressing. <i>Journal of Materials Science</i> , 2014 , 49, 1193-1204	4.3	12
47	Improving the property profile of a bioresorbable Mg-Y-Nd-Zr alloy by deformation treatments. <i>Materialia</i> , 2020 , 13, 100841	3.2	11
46	Architecturing materials at mesoscale: some current trends. <i>Materials Research Letters</i> , 2021 , 9, 399-421	7.4	11
45	Formation and growth of voids in dual-phase steel at microscale and nanoscale levels. <i>Journal of Materials Science</i> , 2017 , 52, 4234-4243	4.3	10
44	Modelling microstructure evolution towards ultrafine crystallinity produced by severe plastic deformation. <i>Journal of Materials Science</i> , 2007 , 42, 9092-9096	4.3	9
43	Cytotoxicity of biodegradable magnesium alloy WE43 to tumor cells in vitro: Bioresorbable implants with antitumor activity?. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2020 , 108, 167-173	3.5	9

42	Effect of Rotary Swaging on Microstructure, Texture, and Mechanical Properties of a Mg-Al-Zn Alloy. <i>Advanced Engineering Materials</i> , 2020 , 22, 1900506	3.5	9
41	Constitutive Modeling of the Stacking Fault Energy-Dependent Deformation Behavior of Fe-Mn-C-(Al) TWIP Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 5919-5924	2.3	9
40	Responsive materials: a novel design for enhanced machine-augmented composites. <i>Scientific Reports</i> , 2014 , 4, 3783	4.9	8
39	A phenomenological model of twinning-mediated strain hardening. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 780, 139194	5.3	8
38	Bending Fatigue Testing of Commercial Purity Titanium for Dental Implants . <i>Advanced Engineering Materials</i> , 2016 , 18, 1166-1173	3.5	8
37	Gradient Structures in Thin-Walled Metallic Tubes Produced by Continuous High Pressure Tube Shearing Process. <i>Advanced Engineering Materials</i> , 2017 , 19, 1700345	3.5	8
36	A Phenomenological Model of Twinning Kinetics . <i>Advanced Engineering Materials</i> , 2017 , 19, 1600092	3.5	8
35	Topological Interlocking Materials. <i>Springer Series in Materials Science</i> , 2019 , 23-49	0.9	7
34	A Mathematical Model of Deformation under High Pressure Torsion Extrusion. <i>Metals</i> , 2019 , 9, 306	2.3	7
33	Structure, mechanical characteristics, biodegradation, and in vitro cytotoxicity of magnesium alloy ZX11 processed by rotary swaging. <i>Journal of Magnesium and Alloys</i> , 2020 , 8, 1038-1046	8.8	7
32	Ultrafine-Grained Magnesium Alloys for Hydrogen Storage Obtained by Severe Plastic Deformation. <i>Frontiers in Materials</i> , 2019 , 6,	4	7
31	Improvement in the strength and ductility of Al-Mg-Mn alloys with Zr and Sc additions by equal channel angular pressing. <i>International Journal of Materials Research</i> , 2009 , 100, 1697-1704	0.5	7
30	Mechanical Behavior of Alloy AA6111 Processed by Severe Plastic Deformation: Modeling and Experiment. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2007 , 129, 380-389	1.8	7
29	Tensile Yield Strength of a Material Preprocessed by Simple Shear. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2016 , 138,	1.8	7
28	Niche Applications of Bulk Nanostructured Materials Processed by Severe Plastic Deformation	635-648	7
27	Modeling of Strength and Strain Hardening of Bulk Nanostructured Materials	109-136	7
26	Modular Modelling of Stress-Strain Behaviour of Ferritic Steel Grades in Strain Rate Ranges Relevant for Automotive Crash Situations. <i>Steel Research International</i> , 2007 , 78, 791-797	1.6	6
25	The Earth's Lithosphere Inspires Materials Design. <i>Advanced Materials</i> , 2021 , 33, e2005473	24	6

24	Design of architected materials based on topological and geometrical interlocking. <i>Journal of Materials Research and Technology</i> , 2021 , 15, 1165-1178	5.5	6
23	Severe Plastic Deformation as a Way to Produce Architected Materials. <i>Springer Series in Materials Science</i> , 2019 , 231-255	0.9	5
22	The Effect of Equal-Channel Angular Pressing on Microstructure, Mechanical Properties, and Biodegradation Behavior of Magnesium Alloyed with Silver and Gadolinium. <i>Crystals</i> , 2020 , 10, 918	2.3	5
21	Dynamic properties of an ultrafine-grained Mg ₉₂ Zn ₈ alloy. <i>Philosophical Magazine Letters</i> , 2013 , 93, 541-549	1	5
20	Topological Interlocking in Design of Structures and Materials. <i>Materials Research Society Symposia Proceedings</i> , 2009 , 1188, 112		5
19	Deformation mechanisms in an ultra-fine grained Al alloy. <i>International Journal of Materials Research</i> , 2009 , 100, 1679-1685	0.5	5
18	Strengthening of Magnesium Alloy WE43 by Rotary Swaging. <i>Materials Science Forum</i> , 2018 , 941, 808-813	0.4	5
17	Effect of Rolling on Microstructure and Room Temperature Tensile Properties of Newly Developed Mg-4Li-1Ca Alloy. <i>Advanced Materials Research</i> , 2014 , 922, 537-542	0.5	4
16	Dynamic Strain Ageing and Stick-Slip Instabilities: A Parallel Approach and Statistical Study. <i>Solid State Phenomena</i> , 1995 , 42-43, 313-324	0.4	4
15	Unraveling the discontinuous plastic flow of a Co-Cr-Fe-Ni-Mo multiprincipal-element alloy at deep cryogenic temperatures. <i>Physical Review Materials</i> , 2021 , 5,	3.2	4
14	Quantifying solid-state mechanical mixing by high-pressure torsion. <i>Journal of Alloys and Compounds</i> , 2021 , 878, 160419	5.7	4
13	Fourth-order strain-gradient phase mixture model for nanocrystalline fcc materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016 , 24, 085016	2	3
12	Architected Polymeric Materials Produced by Additive Manufacturing. <i>Springer Series in Materials Science</i> , 2019 , 257-285	0.9	2
11	Modeling of Severe Plastic Deformation: Time-Proven Recipes and New Results 2013 , 69-90		2
10	Antimicrobial and antibacterial effects of silver nanoparticles synthesized by novel electrochemical method 2008 ,		2
9	Rationale for Processing of a Mg-Zn-Ca Alloy by Equal-Channel Angular Pressing for Use in Biodegradable Implants for Osteoreconstruction. <i>Crystals</i> , 2021 , 11, 1381	2.3	2
8	Nanotomographic evaluation of precipitate structure evolution in a Mg-Zn-Zr alloy during plastic deformation. <i>Scientific Reports</i> , 2020 , 10, 16101	4.9	2
7	Anti-tumour activity of Mg-6%Ag and Mg-10%Gd alloys in mice with inoculated melanoma. <i>Materials Science and Engineering C</i> , 2021 , 130, 112464	8.3	2

6	Equal channel angular pressing with rotating shear plane to produce hybrid materials with helical architecture of constituents. <i>Journal of Materials Research</i> , 2017 , 32, 4483-4490	2.5	1
5	Effect of multiaxial deformation on structure, mechanical properties, and corrosion resistance of a Mg-Ca alloy. <i>Journal of Magnesium and Alloys</i> , 2021 ,	8.8	1
4	Topological Interlocking as a Design Principle For hybrid Materials 2013 , 1525-1534		
3	Modification of Biocorrosion and Cellular Response of Magnesium Alloy WE43 by Multiaxial Deformation. <i>Metals</i> , 2022 , 12, 105	2.3	
2	THE EFFECT OF MULTIAXIAL DEFORMATION ON THE DYNAMICS OF BIODEGRADATION AND CELL COLONIZATION OF ALLOY WE43 2021 , 20, 76-84	0.4	
1	Non-Conventional Fatigue Testing of CP Titanium for Medical Implants 2016 , 837-841		