

Yuri Estrin

List of Publications by Year in descending order

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110
papers

6,626
citations

100601

38
h-index

75989

78
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118
all docs

118
docs citations

118
times ranked

5317
citing authors

#	ARTICLE	IF	CITATIONS
1	Bauschinger Effect or Kinematic Hardening: Bridging Microstructure and Continuum Mechanics. <i>Metals and Materials International</i> , 2023, 29, 280-292.	1.8	10
2	Effect of multiaxial deformation on structure, mechanical properties, and corrosion resistance of a Mg-Ca alloy. <i>Journal of Magnesium and Alloys</i> , 2022, 10, 266-280.	5.5	12
3	Modification of Biocorrosion and Cellular Response of Magnesium Alloy WE43 by Multiaxial Deformation. <i>Metals</i> , 2022, 12, 105.	1.0	1
4	Nanomaterials by severe plastic deformation: review of historical developments and recent advances. <i>Materials Research Letters</i> , 2022, 10, 163-256.	4.1	215
5	Simulation of layered structure instability under high-pressure torsion. <i>Materials Letters</i> , 2022, 324, 132689.	1.3	5
6	The Earth's Lithosphere Inspires Materials Design. <i>Advanced Materials</i> , 2021, 33, 2005473.	11.1	13
7	THE EFFECT OF MULTIAXIAL DEFORMATION ON THE DYNAMICS OF BIODEGRADATION AND CELL COLONIZATION OF ALLOY WE43. , 2021, 20, 76-84.	0.3	0
8	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, .	0.9	9
9	Architecturing materials at mesoscale: some current trends. <i>Materials Research Letters</i> , 2021, 9, 399-421.	4.1	51
10	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.	3.8	8
11	Quantifying solid-state mechanical mixing by high-pressure torsion. <i>Journal of Alloys and Compounds</i> , 2021, 878, 160419.	2.8	11
12	Design of architected materials based on topological and geometrical interlocking. <i>Journal of Materials Research and Technology</i> , 2021, 15, 1165-1178.	2.6	25
13	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.	1.0	10
14	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.	1.6	24
15	Effect of Rotary Swaging on Microstructure, Texture, and Mechanical Properties of a Mg-Al-Zn Alloy. <i>Advanced Engineering Materials</i> , 2020, 22, 1900506.	1.6	21
16	Improving the property profile of a bioresorbable Mg-Y-Nd-Zr alloy by deformation treatments. <i>Materialia</i> , 2020, 13, 100841.	1.3	20
17	Nanotomographic evaluation of precipitate structure evolution in a Mg-Zn-Zr alloy during plastic deformation. <i>Scientific Reports</i> , 2020, 10, 16101.	1.6	4
18	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.	5.5	18

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19	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.	1.0	10
20	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.	1.6	28
21	Gallium-containing magnesium alloy for potential use as temporary implants in osteosynthesis. <i>Journal of Magnesium and Alloys</i> , 2020, 8, 352-363.	5.5	33
22	A phenomenological model of twinning-mediated strain hardening. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 780, 139194.	2.6	9
23	Effect of titanium surface topography on plasma deposition of antibacterial polymer coatings. <i>Applied Surface Science</i> , 2020, 521, 146375.	3.1	29
24	Design of Architected Materials Based on Mechanically Driven Structural and Compositional Patterning. <i>Advanced Engineering Materials</i> , 2019, 21, 1900487.	1.6	38
25	Ultrafine-Grained Magnesium Alloys for Hydrogen Storage Obtained by Severe Plastic Deformation. <i>Frontiers in Materials</i> , 2019, 6, .	1.2	17
26	Topological Interlocking Materials. <i>Springer Series in Materials Science</i> , 2019, , 23-49.	0.4	14
27	Severe Plastic Deformation as a Way to Produce Architected Materials. <i>Springer Series in Materials Science</i> , 2019, , 231-255.	0.4	5
28	A Mathematical Model of Deformation under High Pressure Torsion Extrusion. <i>Metals</i> , 2019, 9, 306.	1.0	15
29	Architected Polymeric Materials Produced by Additive Manufacturing. <i>Springer Series in Materials Science</i> , 2019, , 257-285.	0.4	3
30	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, 3832.	1.3	20
31	Mechanical Properties, Biodegradation, and Biocompatibility of Ultrafine Grained Magnesium Alloy WE43. <i>Materials</i> , 2019, 12, 3627.	1.3	25
32	Analytical and numerical approaches to modelling severe plastic deformation. <i>Progress in Materials Science</i> , 2018, 95, 172-242.	16.0	126
33	Features of in vitro and in vivo behaviour of magnesium alloy WE43. <i>Materials Letters</i> , 2018, 215, 308-311.	1.3	25
34	Twinning-induced plasticity (TWIP) steels. <i>Acta Materialia</i> , 2018, 142, 283-362.	3.8	963
35	Strengthening of Magnesium Alloy WE43 by Rotary Swaging. <i>Materials Science Forum</i> , 2018, 941, 808-813.	0.3	6
36	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.	1.1	15

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37	Microstructure and Mechanical Properties of High-Entropy Alloy Co ₂₀ Cr ₂₆ Fe ₂₀ Mn ₂₀ Ni ₁₄ Processed by High-Pressure Torsion at 77 K and 300 K. <i>Scientific Reports</i> , 2018, 8, 11074.	1.6	45
38	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.	2.6	25
39	Formation and growth of voids in dual-phase steel at microscale and nanoscale levels. <i>Journal of Materials Science</i> , 2017, 52, 4234-4243.	1.7	13
40	Constitutive modeling of deformation behavior of high-entropy alloys with face-centered cubic crystal structure. <i>Materials Research Letters</i> , 2017, 5, 350-356.	4.1	48
41	Twist Extrusion as a Potent Tool for Obtaining Advanced Engineering Materials: A Review. <i>Advanced Engineering Materials</i> , 2017, 19, 1600873.	1.6	64
42	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.	1.3	55
43	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.	2.6	21
44	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.	1.2	2
45	Deformation mechanics of non-planar topologically interlocked assemblies with structural hierarchy and varying geometry. <i>Scientific Reports</i> , 2017, 7, 11844.	1.6	41
46	Gradient Structures in Thin-Walled Metallic Tubes Produced by Continuous High Pressure Tube Shearing Process. <i>Advanced Engineering Materials</i> , 2017, 19, 1700345.	1.6	12
47	A Phenomenological Model of Twinning Kinetics. <i>Advanced Engineering Materials</i> , 2017, 19, 1600092.	1.6	10
48	Tensile Yield Strength of a Material Preprocessed by Simple Shear. <i>Journal of Engineering Materials and Technology</i> , <i>Transactions of the ASME</i> , 2016, 138, .	0.8	9
49	Fourth-order strain-gradient phase mixture model for nanocrystalline fcc materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016, 24, 085016.	0.8	4
50	Microstructure and electrical conductivity of aluminium/steel bimetallic rods processed by severe plastic deformation. <i>Journal of Materials Science</i> , 2016, 51, 6860-6875.	1.7	24
51	Microstructure-mechanical properties relationships for quenching and partitioning (Q&P) processed steel. <i>Acta Materialia</i> , 2016, 113, 124-139.	3.8	268
52	Enhanced Mechanical Performance of Bio-Inspired Hybrid Structures Utilising Topological Interlocking Geometry. <i>Scientific Reports</i> , 2016, 6, 26706.	1.6	68
53	Bending Fatigue Testing of Commercial Purity Titanium for Dental Implants. <i>Advanced Engineering Materials</i> , 2016, 18, 1166-1173.	1.6	8
54	Reinforcement of polyetheretherketone polymer with titanium for improved mechanical properties and <i>in vitro</i> biocompatibility. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2016, 104, 141-148.	1.6	29

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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.	3.1	21
56	Producing Bulk Ultrafine-Grained Materials by Severe Plastic Deformation: Ten Years Later. <i>Jom</i> , 2016, 68, 1216-1226.	0.9	346
57	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.	2.6	68
58	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.	3.8	14
59	Synthesis of Hybrid Materials by Severe Plastic Deformation: A New Paradigm of SPD Processing. <i>Advanced Engineering Materials</i> , 2015, 17, 1853-1861.	1.6	52
60	Internally architected materials with directionally asymmetric friction. <i>Scientific Reports</i> , 2015, 5, 10732.	1.6	19
61	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.	2.6	65
62	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, 6831-6840.	1.7	22
63	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.	2.6	44
64	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.	2.6	46
65	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.	3.8	55
66	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, 913-921.	1.6	43
67	Hydroxyapatite-coated magnesium implants with improved <i>in vitro</i> and <i>in vivo</i> biocorrosion, biocompatibility, and bone response. <i>Journal of Biomedical Materials Research - Part A</i> , 2014, 102, 429-441.	2.1	97
68	Effect of the Strain Rate on the TRIP-TWIP Transition in Austenitic Fe-12pctMn-0.6pctC TWIP Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 717-730.	1.1	98
69	Particle evolution in Mg-Zn-Zr 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.	3.8	32
70	Multicomponent materials from machining chips compacted by equal-channel angular pressing. <i>Journal of Materials Science</i> , 2014, 49, 1193-1204.	1.7	13
71	Enhancement of mechanical properties of grade 4 titanium by equal channel angular pressing with billet encapsulation. <i>Materials Letters</i> , 2014, 114, 144-147.	1.3	24
72	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.	1.7	23

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73	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.	2.6	69
74	Enhancement of properties in cast Mg–Zn rod processed by severe plastic deformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 615, 198-207.	2.6	35
75	Polyetheretherketone/magnesium composite selectively coated with hydroxyapatite for enhanced in vitro bio-corrosion resistance and biocompatibility. <i>Materials Letters</i> , 2014, 116, 20-22.	1.3	36
76	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.	3.8	113
77	Responsive materials: A novel design for enhanced machine-augmented composites. <i>Scientific Reports</i> , 2014, 4, 3783.	1.6	9
78	Effect of annealing on percolating porosity in ultrafine-grained copper produced by equal channel angular pressing. <i>Acta Materialia</i> , 2013, 61, 5477-5486.	3.8	22
79	Effect of back pressure during equal-channel angular pressing on deformation-induced porosity in copper. <i>Scripta Materialia</i> , 2013, 68, 925-928.	2.6	29
80	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.	2.8	36
81	Production and bio-corrosion resistance of porous magnesium with hydroxyapatite coating for biomedical applications. <i>Materials Letters</i> , 2013, 108, 122-124.	1.3	49
82	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.	1.1	71
83	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.	1.1	25
84	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, 2808-2815.	3.8	70
85	Sandwich Panels with a Core Segmented into Topologically Interlocked Elements. <i>Advanced Engineering Materials</i> , 2013, 15, 728-731.	1.6	14
86	Dynamic properties of an ultrafine-grained Mg–Zn–Zr alloy. <i>Philosophical Magazine Letters</i> , 2013, 93, 541-549.	0.5	5
87	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.	1.1	101
88	Architecturing of Metal-Based Composites with Concurrent Nanostructuring: A New Paradigm of Materials Design. <i>Advanced Engineering Materials</i> , 2013, 15, 336-340.	1.6	76
89	Mechanical Strength and Biocompatibility of Ultrafine-Grained Commercial Purity Titanium. <i>BioMed Research International</i> , 2013, 2013, 1-6.	0.9	39
90	Mortarless structures based on topological interlocking. <i>Frontiers of Structural and Civil Engineering</i> , 2012, 6, 188.	1.2	35

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91	Bimetallic copper-aluminium tube by severe plastic deformation. Scripta Materialia, 2012, 66, 1081-1084.	2.6	65
92	Improvement of fatigue strength of a Mg-Zn-Zr alloy by integrated extrusion and equal-channel angular pressing. Scripta Materialia, 2012, 67, 209-212.	2.6	39
93	Constitutive Modeling of the Tensile Behavior of Al-TWIP Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 479-490.	1.1	52
94	Diffusion of Ag and Co in ultrafine-grained α -Ti deformed by equal channel angular pressing. Journal of Applied Physics, 2011, 110, .	1.1	40
95	Accelerated stem cell attachment to ultrafine grained titanium. Acta Biomaterialia, 2011, 7, 900-906.	4.1	114
96	Ultra-fast diffusion channels in pure Ni severely deformed by equal-channel angular pressing. Acta Materialia, 2011, 59, 1974-1985.	3.8	213
97	Plasticity and Grain Boundary Diffusion at Small Grain Sizes. Advanced Engineering Materials, 2010, 12, 758-764.	1.6	79
98	Ultra-Fast Atomic Transport in Severely Deformed Materials—A Pathway to Applications?. Advanced Engineering Materials, 2010, 12, 779-785.	1.6	24
99	Percolating network of ultrafast transport channels in severely deformed nanocrystalline metals. Journal of Applied Physics, 2009, 106, 063502.	1.1	34
100	Topological Interlocking in Design of Structures and Materials. Materials Research Society Symposia Proceedings, 2009, 1188, 112.	0.1	7
101	Deformation mechanisms in an ultra-fine grained Al alloy. International Journal of Materials Research, 2009, 100, 1679-1685.	0.1	5
102	Improvement in the strength and ductility of Al-Mg-Mn alloys with Zr and Sc additions by equal channel angular pressing. International Journal of Materials Research, 2009, 100, 1697-1704.	0.1	7
103	Antimicrobial and antibacterial effects of silver nanoparticles synthesized by novel electrochemical method. , 2008, , .		3
104	A Portrait of Copper Processed by Equal Channel Angular Pressing. Materials Transactions, 2008, 49, 31-37.	0.4	39
105	Mechanical Behavior of Alloy AA6111 Processed by Severe Plastic Deformation: Modeling and Experiment. Journal of Engineering Materials and Technology, Transactions of the ASME, 2007, 129, 380-389.	0.8	8
106	Modular Modelling of Stress-Strain Behaviour of Ferritic Steel Grades in Strain Rate Ranges Relevant for Automotive Crash Situations. Steel Research International, 2007, 78, 791-797.	1.0	6
107	Modelling microstructure evolution towards ultrafine crystallinity produced by severe plastic deformation. Journal of Materials Science, 2007, 42, 9092-9096.	1.7	10
108	Producing bulk ultrafine-grained materials by severe plastic deformation. Jom, 2006, 58, 33-39.	0.9	1,350

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109	Dynamic Strain Ageing and Stick-Slip Instabilities: A Parallel Approach and Statistical Study. Solid State Phenomena, 1995, 42-43, 313-324.	0.3	4
110	Effect of Rolling on Microstructure and Room Temperature Tensile Properties of Newly Developed Mg-4Li-1Ca Alloy. Advanced Materials Research, 0, 922, 537-542.	0.3	4