

# Zheng Jia

## List of Publications by Year in descending order

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49  
papers

4,341  
citations

236925

25  
h-index

214800

47  
g-index

49  
all docs

49  
docs citations

49  
times ranked

5816  
citing authors

#	ARTICLE	IF	CITATIONS
1	Processing bulk natural wood into a high-performance structural material. <i>Nature</i> , 2018, 554, 224-228.	27.8	970
2	Tin Anode for Sodium-Ion Batteries Using Natural Wood Fiber as a Mechanical Buffer and Electrolyte Reservoir. <i>Nano Letters</i> , 2013, 13, 3093-3100.	9.1	556
3	Self-powered soft robot in the Mariana Trench. <i>Nature</i> , 2021, 591, 66-71.	27.8	545
4	Anomalous scaling law of strength and toughness of cellulose nanopaper. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 8971-8976.	7.1	296
5	Atomic-Layer-Deposition Oxide Nanoglue for Sodium Ion Batteries. <i>Nano Letters</i> , 2014, 14, 139-147.	9.1	191
6	A Mechanically Robust and Versatile Liquid-Free Ionic Conductive Elastomer. <i>Advanced Materials</i> , 2021, 33, e2006111.	21.0	188
7	Dual pH-Responsive Hydrogel Actuator for Lipophilic Drug Delivery. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 12010-12017.	8.0	162
8	3D Printing of Ultralight Biomimetic Hierarchical Graphene Materials with Exceptional Stiffness and Resilience. <i>Advanced Materials</i> , 2019, 31, e1902930.	21.0	130
9	Lithium-Assisted Electrochemical Welding in Silicon Nanowire Battery Electrodes. <i>Nano Letters</i> , 2012, 12, 1392-1397.	9.1	110
10	A versatile hydrogel networkâ€‘repairing strategy achieved by the covalent-like hydrogen bond interaction. <i>Science Advances</i> , 2022, 8, eabl5066.	10.3	96
11	Ambiently and Mechanically Stable Ionogels for Soft Ionotronics. <i>Advanced Functional Materials</i> , 2021, 31, 2102773.	14.9	95
12	3D Printed Mechanically Robust Graphene/CNT Electrodes for Highly Efficient Overall Water Splitting. <i>Advanced Materials</i> , 2020, 32, e1908201.	21.0	84
13	Red-phosphorus-impregnated carbon nanofibers for sodium-ion batteries and liquefaction of red phosphorus. <i>Nature Communications</i> , 2020, 11, 2520.	12.8	77
14	Two dimensional silicon nanowalls for lithium ion batteries. <i>Journal of Materials Chemistry A</i> , 2014, 2, 6051-6057.	10.3	70
15	A Beaded-String Silicon Anode. <i>ACS Nano</i> , 2013, 7, 2717-2724.	14.6	68
16	Hybrid hydrogel sheets that undergo pre-programmed shape transformations. <i>Soft Matter</i> , 2014, 10, 8157-8162.	2.7	65
17	<i>In situ</i> electro-mechanical experiments and mechanics modeling of tensile cracking in indium tin oxide thin films on polyimide substrates. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	61
18	Failure mechanics of organicâ€‘inorganic multilayer permeation barriers in flexible electronics. <i>Composites Science and Technology</i> , 2011, 71, 365-372.	7.8	59

#	ARTICLE	IF	CITATIONS
19	Stress-modulated driving force for lithiation reaction in hollow nano-anodes. <i>Journal of Power Sources</i> , 2015, 275, 866-876.	7.8	54
20	Beyond Skin Pressure Sensing: 3D Printed Laminated Graphene Pressure Sensing Material Combines Extremely Low Detection Limits with Wide Detection Range. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	54
21	Ultrafast Digital Fabrication of Designable Architected Liquid Crystalline Elastomer. <i>Advanced Materials</i> , 2021, 33, e2105597.	21.0	37
22	In Situ Electro-Mechanical Experiments and Mechanics Modeling of Fracture in Indium Tin Oxide-Based Multilayer Electrodes. <i>Advanced Engineering Materials</i> , 2013, 15, 250-256.	3.5	36
23	Intrinsic stress mitigation via elastic softening during two-step electrochemical lithiation of amorphous silicon. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 91, 278-290.	4.8	34
24	A map of competing buckling-driven failure modes of substrate-supported thin brittle films. <i>Thin Solid Films</i> , 2012, 520, 6576-6580.	1.8	30
25	Size-dependent rupture strain of elastically stretchable metal conductors. <i>Scripta Materialia</i> , 2012, 66, 919-922.	5.2	28
26	Differential diffusion driven far-from-equilibrium shape-shifting of hydrogels. <i>Nature Communications</i> , 2021, 12, 6155.	12.8	26
27	Failure mechanics of a wrinkling thin film anode on a substrate under cyclic charging and discharging. <i>Extreme Mechanics Letters</i> , 2016, 8, 273-282.	4.1	24
28	A constitutive model of microfiber reinforced anisotropic hydrogels: With applications to wood-based hydrogels. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 138, 103893.	4.8	24
29	Reprogrammable ultra-fast shape-transformation of macroporous composite hydrogel sheets. <i>Journal of Materials Chemistry B</i> , 2017, 5, 2883-2887.	5.8	23
30	Necking limit of substrate-supported metal layers under biaxial in-plane loading. <i>International Journal of Plasticity</i> , 2013, 51, 65-79.	8.8	20
31	Rate-dependent stress evolution in nanostructured Si anodes upon lithiation. <i>Applied Physics Letters</i> , 2016, 109, .	3.3	16
32	Dielectric-elastomer-based capacitive force sensing with tunable and enhanced sensitivity. <i>Extreme Mechanics Letters</i> , 2018, 21, 49-56.	4.1	14
33	A micromechanical model for the growth of collagenous tissues under mechanics-mediated collagen deposition and degradation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 98, 96-107.	3.1	13
34	Delayed burst of a gel balloon. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 124, 143-158.	4.8	11
35	Analytical Model on Stress-Regulated Lithiation Kinetics and Fracture of Si-C Yolk-Shell Anodes for Lithium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2016, 163, A940-A946.	2.9	10
36	Modular-based multiscale modeling on viscoelasticity of polymer nanocomposites. <i>Computational Mechanics</i> , 2017, 59, 187-201.	4.0	9

#	ARTICLE	IF	CITATIONS
37	Bifurcation instability of substrate-supported metal films under biaxial in-plane tension. Journal of the Mechanics and Physics of Solids, 2019, 126, 52-75.	4.8	9
38	Machine-learning-accelerated design of functional structural components in deep-sea soft robots. Extreme Mechanics Letters, 2022, 52, 101635.	4.1	9
39	A chemo-mechanical model for fully-coupled lithiation reaction and stress generation in viscoplastic lithiated silicon. Science China Technological Sciences, 2019, 62, 1365-1374.	4.0	8
40	Mechanics-guided design of shape-morphing composite sheets with hard and soft materials. Extreme Mechanics Letters, 2020, 35, 100643.	4.1	8
41	Stress evolution during the two-step charging of high-capacity electrode materials. Journal of Power Sources, 2021, 486, 229371.	7.8	5
42	Effect of interfacial stiffness on the stretchability of metal/elastomer bilayers under in-plane biaxial tension. Theoretical and Applied Mechanics Letters, 2021, 11, 100247.	2.8	4
43	Molecular Mechanism Underpinning Stable Mechanical Performance and Enhanced Conductivity of Air-Aged Ionic Conductive Elastomers. Macromolecules, 2022, 55, 4665-4674.	4.8	4
44	Nanoscale silicon-based actuators with extremely large actuation strain and extremely low driving voltage. Extreme Mechanics Letters, 2019, 31, 100534.	4.1	3
45	Highly Stretchable Bilayer Lattice Structures That Elongate via In-Plane Deformation. Advanced Functional Materials, 2020, 30, 1909473.	14.9	3
46	A Constitutive Model for Binary-Solvent Gels. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	1
47	Pulling actuation enabled by harnessing the torsional instability of hyperelastic soft rods. Extreme Mechanics Letters, 2022, 55, 101807.	4.1	1
48	Concomitant Channel Cracking and Interfacial Delamination in Polymer/Oxide Nano Hybrid Permeation Barriers in Flexible Electronics. Materials Research Society Symposia Proceedings, 2011, 1312, 1.	0.1	0
49	STRESS-MODULATED DRIVING FORCE FOR LITHIATION REACTION IN HOLLOW NANO-SPHERICAL ANODES. Materials Research Society Symposia Proceedings, 2014, 1643, 1.	0.1	0