

# Jin-Xiong Zhou

## List of Publications by Year in descending order

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104  
papers

6,400  
citations

136885

32  
h-index

64755

79  
g-index

104  
all docs

104  
docs citations

104  
times ranked

7163  
citing authors

#	ARTICLE	IF	CITATIONS
1	A theory of coupled diffusion and large deformation in polymeric gels. <i>Journal of the Mechanics and Physics of Solids</i> , 2008, 56, 1779-1793.	2.3	790
2	Self-healing gels based on constitutional dynamic chemistry and their potential applications. <i>Chemical Society Reviews</i> , 2014, 43, 8114-8131.	18.7	733
3	Novel Biocompatible Polysaccharide-Based Self-Healing Hydrogel. <i>Advanced Functional Materials</i> , 2015, 25, 1352-1359.	7.8	526
4	Strengthening Alginate/Polyacrylamide Hydrogels Using Various Multivalent Cations. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 10418-10422.	4.0	520
5	Tough Al-alginate/Poly( <i>N</i> -isopropylacrylamide) Hydrogel with Tunable LCST for Soft Robotics. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 1758-1764.	4.0	350
6	Transparent hydrogel with enhanced water retention capacity by introducing highly hydratable salt. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	292
7	Mechanisms of large actuation strain in dielectric elastomers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2011, 49, 504-515.	2.4	252
8	Electroluminescence of Giant Stretchability. <i>Advanced Materials</i> , 2016, 28, 4480-4484.	11.1	230
9	Highly Stretchable and Transparent Ionogels as Nonvolatile Conductors for Dielectric Elastomer Transducers. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 7840-7845.	4.0	226
10	Optimal placement of sensors for structural health monitoring using improved genetic algorithms. <i>Smart Materials and Structures</i> , 2004, 13, 528-534.	1.8	193
11	Ionic cable. <i>Extreme Mechanics Letters</i> , 2015, 3, 59-65.	2.0	179
12	Propagation of instability in dielectric elastomers. <i>International Journal of Solids and Structures</i> , 2008, 45, 3739-3750.	1.3	143
13	An adaptive beam model and dynamic characteristics of magnetorheological materials. <i>Journal of Sound and Vibration</i> , 2003, 261, 465-481.	2.1	141
14	Exceptionally tough and notch-insensitive magnetic hydrogels. <i>Soft Matter</i> , 2015, 11, 8253-8261.	1.2	97
15	Stretchable and transparent hydrogels as soft conductors for dielectric elastomer actuators. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2014, 52, 1055-1060.	2.4	94
16	Facile fabrication of self-healing carboxymethyl cellulose hydrogels. <i>European Polymer Journal</i> , 2015, 72, 514-522.	2.6	91
17	A dynamic finite element method for inhomogeneous deformation and electromechanical instability of dielectric elastomer transducers. <i>International Journal of Solids and Structures</i> , 2012, 49, 2187-2194.	1.3	83
18	Modeling programmable deformation of self-folding all-polymer structures with temperature-sensitive hydrogels. <i>Smart Materials and Structures</i> , 2013, 22, 115028.	1.8	77

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19	Programmable Hierarchical Kirigami. <i>Advanced Functional Materials</i> , 2020, 30, 1906711.	7.8	70
20	Nano-optomechanical Actuator and Pull-Back Instability. <i>ACS Nano</i> , 2013, 7, 1676-1681.	7.3	69
21	Tough Photoluminescent Hydrogels Doped with Lanthanide. <i>Macromolecular Rapid Communications</i> , 2015, 36, 465-471.	2.0	66
22	Cyclic performance of viscoelastic dielectric elastomers with solid hydrogel electrodes. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	63
23	Neural interfaces by hydrogels. <i>Extreme Mechanics Letters</i> , 2019, 30, 100510.	2.0	51
24	Electromechanical stability in charge-controlled dielectric elastomer actuation. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	46
25	A Biomimetic 3D Self-Forming Approach for Microvascular Scaffolds. <i>Advanced Science</i> , 2020, 7, 1903553.	5.6	46
26	Soft mobile robots driven by foldable dielectric elastomer actuators. <i>Journal of Applied Physics</i> , 2016, 120, .	1.1	43
27	A model for conditional polarization of the actuation enhancement of a dielectric elastomer. <i>Soft Matter</i> , 2012, 8, 311-317.	1.2	41
28	Incremental harmonic balance method for predicting amplitudes of a multi-d.o.f. non-linear wheel shimmy system with combined Coulomb and quadratic damping. <i>Journal of Sound and Vibration</i> , 2005, 279, 403-416.	2.1	39
29	Meshless approximation combined with implicit topology description for optimization of continua. <i>Structural and Multidisciplinary Optimization</i> , 2008, 36, 347-353.	1.7	36
30	Shooting and Arc-Length Continuation Method for Periodic Solution and Bifurcation of Nonlinear Oscillation of Viscoelastic Dielectric Elastomers. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .	1.1	36
31	Cell-encapsulating microfluidic hydrogels with enhanced mechanical stability. <i>Soft Matter</i> , 2012, 8, 10687.	1.2	34
32	Modeling deformation and contacts of pH sensitive hydrogels for microfluidic flow control. <i>Soft Matter</i> , 2012, 8, 3083.	1.2	32
33	Snap-back induced hysteresis in an elastic mechanical metamaterial under tension. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	32
34	Actuating dielectric elastomers in pure shear deformation by elastomeric conductors. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	31
35	Shape optimization using reproducing kernel particle method and an enriched genetic algorithm. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2005, 194, 4048-4070.	3.4	26
36	Experimental study of the semi-active control of building structures using the shaking table. <i>Earthquake Engineering and Structural Dynamics</i> , 2003, 32, 2353-2376.	2.5	24

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37	Polarization-modified instability and actuation transition of deformable dielectric. <i>Europhysics Letters</i> , 2011, 95, 37006.	0.7	23
38	Electromechanical stability of dielectric elastomer composites with enhanced permittivity. <i>Composites Part A: Applied Science and Manufacturing</i> , 2013, 52, 55-61.	3.8	22
39	Predicting origami-inspired programmable self-folding of hydrogel trilayers. <i>Smart Materials and Structures</i> , 2016, 25, 11LT02.	1.8	22
40	Harnessing programmed holes in hydrogel bilayers to design soft self-folding machines. <i>International Journal of Mechanical Sciences</i> , 2018, 140, 271-278.	3.6	21
41	Photo-thermo-mechanically actuated bending and snapping kinetics of liquid crystal elastomer cantilever. <i>Smart Materials and Structures</i> , 2014, 23, 125012.	1.8	20
42	Voltage-induced wrinkling behavior of dielectric elastomer. <i>Journal of Applied Polymer Science</i> , 2016, 133, .	1.3	20
43	Multiscale modeling of viscoelastic behavior of unidirectional composite laminates and deployable structures. <i>Materials and Design</i> , 2022, 219, 110754.	3.3	20
44	Modeling SMA-enabled soft deployable structures for kirigami/origami reflectors. <i>International Journal of Mechanical Sciences</i> , 2020, 180, 105753.	3.6	19
45	Photoactive Self-Shaping Hydrogels as Noncontact 3D Macro/Microscopic Photoprinting Platforms. <i>Macromolecular Rapid Communications</i> , 2015, 36, 2129-2136.	2.0	17
46	Instability of liquid crystal elastomers. <i>Smart Materials and Structures</i> , 2016, 25, 015016.	1.8	17
47	Exploring the design space for nonlinear buckling of composite thin-walled lenticular tubes under pure bending. <i>International Journal of Mechanical Sciences</i> , 2021, 207, 106661.	3.6	17
48	A nodal integration and post-processing technique based on Voronoi diagram for Galerkin meshless methods. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2003, 192, 3831-3843.	3.4	16
49	Reproducing kernel particle method for free and forced vibration analysis. <i>Journal of Sound and Vibration</i> , 2005, 279, 389-402.	2.1	15
50	Actuation and instability of interconnected dielectric elastomer balloons. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 119, 443-449.	1.1	15
51	Analysis, experiment, and correlation of a petal-shaped actuator based on dielectric elastomer minimum-energy structures. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	1.1	15
52	Mechanics of dielectric elastomer-activated deformable transmission grating. <i>Smart Materials and Structures</i> , 2014, 23, 095010.	1.8	14
53	Implementation of Abaqus user subroutines and plugin for thermal analysis of powder-bed electron-beam-melting additive manufacturing process. <i>Materials Today Communications</i> , 2021, 27, 102307.	0.9	14
54	Solving phase field equations using a meshless method. <i>Communications in Numerical Methods in Engineering</i> , 2006, 22, 1109-1115.	1.3	13

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55	Incremental harmonic balance method for periodic forced oscillation of a dielectric elastomer balloon. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 459-470.	1.9	13
56	All-Solid Ionic Eye. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021, 88, .	1.1	13
57	A Truly Meshless Method based on Partition of Unity Quadrature for Shape Optimization of Continua. <i>Computational Mechanics</i> , 2007, 39, 357-365.	2.2	12
58	Energy Diagrams of Dielectric Elastomer Generators under Different Types of Deformation. <i>Chinese Physics Letters</i> , 2013, 30, 066103.	1.3	11
59	Modeling and understanding locomotion of pneumatic soft robots. <i>Soft Materials</i> , 2018, 16, 151-159.	0.8	11
60	Modeling soft machines driven by buckling actuators. <i>International Journal of Mechanical Sciences</i> , 2019, 157-158, 662-667.	3.6	11
61	Surface instability of a swollen cylinder hydrogel. <i>Acta Mechanica Solida Sinica</i> , 2012, 25, 550-556.	1.0	10
62	Modeling of the muscle-like actuation in soft dielectrics: deformation mode and electromechanical stability. <i>Applied Physics A: Materials Science and Processing</i> , 2013, 110, 59-63.	1.1	10
63	Finite element implementation of poroelasticity theory for swelling dynamics of hydrogels. <i>Theoretical and Applied Mechanics Letters</i> , 2013, 3, 054009.	1.3	10
64	Surrogate Modeling Accelerated Shape Optimization of Deployable Composite Tape-Spring Hinges. <i>AIAA Journal</i> , 2022, 60, 5942-5953.	1.5	10
65	Explicit 3-D RKPM shape functions in terms of kernel function moments for accelerated computation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2005, 194, 1027-1035.	3.4	9
66	Engineering ellipsoidal cap-like hydrogel particles as building blocks or sacrificial templates for three-dimensional cell culture. <i>Biomaterials Science</i> , 2018, 6, 885-892.	2.6	9
67	A subdomain collocation method based on Voronoi domain partition and reproducing kernel approximation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2007, 196, 1958-1967.	3.4	8
68	A soft sandwich structure enables voltage-induced actuation of liquid metal embedded elastomers. <i>AIP Advances</i> , 2020, 10, 015016.	0.6	8
69	A predictive deep-learning approach for homogenization of auxetic kirigami metamaterials with randomly oriented cuts. <i>Modern Physics Letters B</i> , 2021, 35, 2150033.	1.0	8
70	A dynamic finite element procedure for bending collapse of composite thin-walled lenticular tubes. <i>Composite Structures</i> , 2022, 287, 115364.	3.1	8
71	ON SOME ENRICHMENTS OF REPRODUCING KERNEL PARTICLE METHOD. <i>International Journal of Computational Methods</i> , 2004, 01, 519-533.	0.8	7
72	Investigations on reproducing kernel particle method enriched by partition of unity and visibility criterion. <i>Computational Mechanics</i> , 2004, 34, 310.	2.2	7

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73	Reaction-induced swelling of ionic gels. <i>Soft Matter</i> , 2015, 11, 449-455.	1.2	7
74	Switching of deformation modes in soft mechanical metamaterials. <i>Soft Materials</i> , 2016, 14, 180-186.	0.8	7
75	Large deformation shape optimization of cut-mediated soft mechanical metamaterials. <i>Materials Research Express</i> , 2019, 6, 055802.	0.8	7
76	Achieving selective snapping-back and enhanced hysteresis in soft mechanical metamaterials via fiber reinforcement. <i>Journal of Applied Physics</i> , 2021, 129, 044903.	1.1	7
77	Stress evolution in a phase-separating polymeric gel. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2010, 18, 025002.	0.8	6
78	MULTIPHYSICS MODELING OF SELF-OSCILLATIONS OF IONIC POLYMER GEL ACTUATORS. <i>International Journal of Applied Mechanics</i> , 2011, 03, 355-363.	1.3	6
79	Homogeneous large deformation analysis of a dielectric elastomer peristaltic actuator. <i>Science China Technological Sciences</i> , 2012, 55, 537-541.	2.0	6
80	Designing Soft Mobile Machines Enabled by Dielectric Elastomer Minimum Energy Structures. <i>Polymers</i> , 2022, 14, 1466.	2.0	6
81	Modeling contacts of ionic polymer metal composites based tactile sensors. <i>Acta Mechanica Sinica</i> , 2014, 27, 407-411.	1.0	5
82	The performance analysis of a new type DEAP vibration isolator. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2016, 52, 1351-1358.	0.3	5
83	Soft electroactive actuators and hard ratchet-wheels enable unidirectional locomotion of hybrid machine. <i>AIP Advances</i> , 2017, 7, .	0.6	4
84	h-adaptivity analysis based on multiple scale reproducing kernel particle method. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2005, 26, 1064-1071.	1.9	3
85	On the enhancement of computation and exploration of discretization approaches for meshless shape design sensitivity analysis. <i>Structural and Multidisciplinary Optimization</i> , 2006, 31, 96-104.	1.7	3
86	Nonlinear dynamics of self-oscillating polymer gels. <i>Science China Technological Sciences</i> , 2010, 53, 1862-1868.	2.0	3
87	Kinetic modelling and bifurcation analysis of chemomechanically miniaturized gels under mechanical load. <i>European Physical Journal E</i> , 2013, 36, 108.	0.7	3
88	Effect of viscoelastic relaxation on the electromechanical coupling of dielectric elastomer. <i>Proceedings of SPIE</i> , 2013, , .	0.8	3
89	Constrained swelling and instability of a temperature-sensitive hydrogel ring. <i>E-Polymers</i> , 2014, 14, 103-106.	1.3	3
90	Dielectric elastomer cantilever beam sensor. <i>Proceedings of SPIE</i> , 2014, , .	0.8	3

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91	Enhancing standard finite element codes with POD for reduced order thermal analysis: Application to electron beam melting of pure tungsten. <i>Materials Today Communications</i> , 2021, 29, 102796.	0.9	3
92	Thermal deformation analysis of the shadow mask and prediction of beam landing shifts for CRT using finite element method. <i>Advances in Engineering Software</i> , 2004, 35, 503-509.	1.8	2
93	A theory of large deformation in soft active materials. , 2008, , .		2
94	Three dimensional phase field study on the thickness effect of ferroelectric polymer thin film. <i>Theoretical and Applied Mechanics Letters</i> , 2011, 1, 011008.	1.3	2
95	Method towards optimal design of dielectric elastomer actuated soft machines. <i>Science China Technological Sciences</i> , 2018, 61, 959-964.	2.0	2
96	Extended Stress-Diffusion Coupling Model for Swelling Dynamics of Polymer Gels. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 3466-3471.	1.8	1
97	Editorial: Mechanics of soft materials, structures and systems. <i>Theoretical and Applied Mechanics Letters</i> , 2013, 3, 054001.	1.3	1
98	Inhomogeneous deformation of circular dielectric elastomer: simulation and experiment. <i>Proceedings of SPIE</i> , 2014, , .	0.8	1
99	Microvascular Scaffolds: A Biomimetic 3D Self-Forming Approach for Microvascular Scaffolds (Adv.) <i>Tj ETQq1 1 0,784314,rgBT /O</i>	5.6	1
100	Folding-mediated soft elasticity and bandgap variation in mechanical metamaterials. <i>Modern Physics Letters B</i> , 2021, 35, 2150239.	1.0	1
101	Simulating Surface-Mediated Self Assembly Patterns by a Stabilized Fourier Spectral Method. <i>Materials Transactions</i> , 2008, 49, 2028-2032.	0.4	0
102	MULTIPHYSICS MODELING OF IONIC GEL ACTUATORS. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1345, 1.	0.1	0
103	SYNTHESIS, EXPERIMENTAL CHARACTERIZATION AND PARAMETRIC IDENTIFICATION OF IONIC-POLYMER METAL COMPOSITE BENDING ACTUATORS. <i>International Journal of Computational Materials Science and Engineering</i> , 2012, 01, 1250012.	0.5	0
104	A transient fluid-structure interaction analysis strategy and validation of a pressurized reactor with regard to loss-of-coolant accidents. <i>Nuclear Science and Techniques/Hewuli</i> , 2020, 31, 1.	1.3	0