

# Jaehyung Ju

## List of Publications by Year in descending order

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Version: 2024-02-01

82  
papers

1,260  
citations

516710

16  
h-index

454955

30  
g-index

83  
all docs

83  
docs citations

83  
times ranked

791  
citing authors

#	ARTICLE	IF	CITATIONS
1	A non-centrosymmetric square lattice with an axial bending coupling. <i>Materials and Design</i> , 2022, 216, 110532.	7.0	6
2	Encoding of direct 4D printing of isotropic single-material system for double-curvature and multimodal morphing. <i>Extreme Mechanics Letters</i> , 2022, 54, 101779.	4.1	12
3	Micropolar homogenization of wavy tetra-chiral and tetra-achiral lattices to identify axial shear coupling and directional negative Poisson's ratio. <i>Materials and Design</i> , 2021, 201, 109483.	7.0	17
4	Thermomechanically Triggered Reversible Multi-Transformability of a Single Material System by Energy Swapping and Shape Memory Effects. <i>Advanced Functional Materials</i> , 2021, 31, 2101395.	14.9	17
5	Acoustic Metasurface-Aided Broadband Noise Reduction in Automobile Induced by Tire-Pavement Interaction. <i>Materials</i> , 2021, 14, 4262.	2.9	5
6	Effect of disconnection of deformable units on the mobility and stiffness of 3D prismatic modular origami structures using angular kinematics. <i>Scientific Reports</i> , 2021, 11, 18259.	3.3	5
7	Topologically reconfigurable mechanical metamaterials with motion structures. <i>Mechanics of Materials</i> , 2020, 143, 103317.	3.2	7
8	Effect of crosslinking agents on drug distribution in chitosan hydrogel for targeted drug delivery to treat cancer. <i>Journal of Polymer Research</i> , 2020, 27, 1.	2.4	13
9	Reconfigurable mesostructures with prestressing, reverse stiffness and shape memory effects. <i>Extreme Mechanics Letters</i> , 2020, 35, 100625.	4.1	11
10	Design of thermal diodes using asymmetric thermal deformation of a Kirigami structure. <i>Materials and Design</i> , 2020, 193, 108734.	7.0	14
11	A Passive Thermal Switch with Kirigami-Inspired Mesostructures. <i>Advanced Engineering Materials</i> , 2019, 21, 1900225.	3.5	20
12	Thermomechanically Tunable Elastic Metamaterials With Compliant Porous Structures. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2018, 140, 021004.	1.4	8
13	Nonreciprocal Linear Transmission of Sound in a Viscous Environment with Broken $P$ Symmetry. <i>Physical Review Letters</i> , 2018, 120, 204501.	7.8	18
14	A mechanism-based architected material: A hierarchical approach to design Poisson's ratio and stiffness. <i>Mechanics of Materials</i> , 2018, 125, 14-25.	3.2	22
15	Enhanced Coarse-Graining of Thermoplastic Polyurethane Elastomer for Multiscale Modeling. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2017, 139, .	1.4	13
16	Understanding the shape memory behavior of thermoplastic polyurethane elastomers with coarse-grained molecular dynamics simulations. <i>MRS Advances</i> , 2017, 2, 375-380.	0.9	4
17	Thermoviscoelastic modeling of a nonpneumatic tire with a lattice spoke. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2017, 231, 241-252.	1.9	22
18	2D Motion Structures of N-Fold Rotational Symmetry. , 2017, , .		0

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19	Tunable Triangular Cellular Structures by Pneumatic Control of Dual Channel Actuators. , 2017, , .		0
20	Prediction of Hysteresis of a Thermoplastic Polyurethane Using Coarse-Grained Molecular Dynamics. , 2016, , .		1
21	Multiscale modeling of a natural rubber: Bridging a coarse-grained molecular model to the rubber network theory. Polymer, 2016, 101, 34-47.	3.8	28
22	Indirect Fabrication of Lattice Metals with Thin Sections Using Centrifugal Casting. Journal of Visualized Experiments, 2016, , .	0.3	3
23	Non Linear Viscoelastic Constitutive Relation of Elastomers for Hysteresis Behavior. Transactions of the Korean Society of Mechanical Engineers, A, 2016, 40, 353-362.	0.2	3
24	Hyperelastic Multi-Scale Modeling of a Thermoplastic Polyurethane Elastomer Using Molecular Mechanics. , 2015, , .		5
25	Reconfigurable Compliant Cellular Material With Programmable Compliant Cellular Structure. , 2015, , .		1
26	Multilevel Metal Flow-Fill Analysis of Centrifugal Casting for Indirect Additive Manufacturing of Lattice Structures. , 2015, , .		1
27	Thermal Stress Analysis of Gypsum Shell Cracking in Polyjet-Based Rapid Casting of Cellular Metals. , 2015, , .		0
28	Shape control of a beam consisting of triangular meso-structure segments with multiple V-shaped flexure springs. International Journal of Mechanisms and Robotic Systems, 2015, 2, 144.	0.1	1
29	Mechanical metamaterials with 3D compliant porous structures. Composite Structures, 2015, 132, 874-884.	5.8	21
30	Compliant Cellular Materials With Elliptical Holes for Extremely High Positive and Negative Poisson's Ratios. Journal of Engineering Materials and Technology, Transactions of the ASME, 2015, 137, .	1.4	12
31	Indirect additive manufacturing based casting of a periodic 3D cellular metal " Flow simulation of molten aluminum alloy. Journal of Manufacturing Processes, 2015, 17, 28-40.	5.9	49
32	Continuum Model for Effective Properties of Orthotropic Octet-Truss Lattice Materials. , 2014, , .		10
33	Indirect Additive Manufacturing Based Casting (I AM Casting) of a Lattice Structure. , 2014, , .		4
34	Compliant cellular materials with compliant porous structures: A mechanism based materials design. International Journal of Solids and Structures, 2014, 51, 3889-3903.	2.7	18
35	Three-Dimensional Compliant Cellular Materials: A Mechanism Based Material Design. , 2014, , .		0
36	Optimisation of geometry and material properties of a non-pneumatic tyre for reducing rolling resistance. International Journal of Vehicle Design, 2014, 66, 193.	0.3	50

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37	Porous materials with high negative Poisson's ratios—a mechanism based material design. <i>Smart Materials and Structures</i> , 2013, 22, 084007.	3.5	15
38	Compliant cellular structures: Application to a passive morphing airfoil. <i>Composite Structures</i> , 2013, 106, 560-569.	5.8	85
39	A Numerical Study of a Molten Aluminum for Investment Casting of 3D Cellular Metals. , 2013, , .		1
40	An Experimental Study on the Mode I Fracture Behavior of Hexagonal Honeycombs. , 2013, , .		0
41	Effects of geometric and material properties on electrical power harvested from a bimorph piezoelectric cantilever beam. <i>Multidiscipline Modeling in Materials and Structures</i> , 2013, 9, 391-409.	1.3	5
42	Cellular Materials With Extremely High Negative and Positive Poisson's Ratios: A Mechanism Based Material Design. , 2013, , .		3
43	Rolling Resistance of a Nonpneumatic Tire Having a Porous Elastomer Composite Shear Band. <i>Tire Science and Technology</i> , 2013, 41, 154-173.	0.4	43
44	Design of Honeycombs for Modulus and Yield Strain in Shear. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2012, 134, .	1.4	35
45	Vibration Analysis of Non-Pneumatic Tires With Hexagonal Lattice Spokes. , 2012, , .		6
46	Nonlinear Material Modeling of a Truck Tire, Pavement and its Effect on Contact Stresses. , 2012, , .		2
47	A Study on the Aerodynamic Drag of a Non-Pneumatic Tire. , 2012, , .		4
48	Lateral Stiffness and Dynamic Properties of Separable Polyurethane Tires for a Folding Bike. , 2012, , .		1
49	The Dynamic Properties of a Non-Pneumatic Tire With Flexible Auxetic Honeycomb Spokes. , 2012, , .		10
50	A Novel Compliant Fixation Plate for Bone Fractures. , 2012, , .		0
51	Design of Honeycomb Mesostructures for Crushing Energy Absorption. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2012, 134, .	2.9	37
52	Flexible cellular solid spokes of a non-pneumatic tire. <i>Composite Structures</i> , 2012, 94, 2285-2295.	5.8	115
53	Aluminum Taper Bristle-Shaped Shear Band for a Nonpneumatic Tire. <i>Tire Science and Technology</i> , 2012, 40, 152-170.	0.4	8
54	Shear Compliant Hexagonal Cellular Solids With a Shape Memory Alloy. , 2011, , .		6

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55	Effects of Geometric and Material Properties on Electrical Power Harvested From a Bimorph Piezoelectric Cantilever Beam. , 2011, , .		0
56	Compliant hexagonal periodic lattice structures having both high shear strength and high shear strain. Materials & Design, 2011, 32, 512-524.	5.1	133
57	Separable Polyurethane Solid Tires for a Folding Bike. , 2011, , .		1
58	Contact Pressure of a Non-Pneumatic Tire With Three-Dimensional Cellular Spokes. , 2011, , .		8
59	Optimization of Honeycomb Cellular Meso-Structures for High Speed Impact Energy Absorption. , 2011, , .		4
60	Finite Element Analysis of Tire and Pavement Interaction. , 2011, , .		0
61	Passive Morphing Airfoil With Honeycombs. , 2011, , .		2
62	Optimization of a Non-Pneumatic Tire for Reduced Rolling Resistance. , 2011, , .		5
63	Hyperelastic Constitutive Modeling of Hexagonal Honeycombs Subjected to In-Plane Shear Loading. Journal of Engineering Materials and Technology, Transactions of the ASME, 2011, 133, .	1.4	30
64	Effects of Cellular Shear Bands on Interaction between a Non-pneumatic Tire and Sand. , 2010, , .		5
65	Experimental Damage Characterization of Hexagonal Honeycombs Subjected to In-Plane Shear Loading. , 2010, , .		6
66	Compliant Hexagonal Meso-Structures Having Both High Shear Strength and High Shear Strain. , 2010, , .		6
67	Design of Sinusoidal Auxetic Structures for High Shear Flexure. , 2010, , .		13
68	Design of Chiral Honeycomb Meso-Structures for High Shear Flexure. , 2010, , .		14
69	Design of Honeycomb Meta-Materials for High Shear Flexure. , 2009, , .		28
70	Cyclic Energy Loss of Honeycombs Under In-Plane Shear Loading. , 2009, , .		6
71	Nonlinear Elastic Constitutive Relations of Auxetic Honeycombs. , 2009, , .		3
72	Transverse Cracking of M40J/PMR-II-50 Composites under Thermal&”Mechanical Loading: Part I â€” Characterization of Main and Interaction Effects using Statistical Design of Experiments. Journal of Composite Materials, 2007, 41, 1009-1031.	2.4	3

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73	An Initial and Progressive Failure Analysis for Cryogenic Composite Fuel Tank Design. Journal of Composite Materials, 2007, 41, 2545-2568.	2.4	13
74	Transverse Cracking of M40J/PMR-II-50 Composites under Thermal-Mechanical Loading. Journal of Composite Materials, 2007, 41, 1067-1086.	2.4	7
75	Thermo-Mechanical Analysis of Composites Under Combined Conduction Heating and Large Deflection Bending. , 2005, , 243.		0
76	Characterization of Microcrack Development in BMI-Carbon Fiber Composite under Stress and Thermal Cycling. Journal of Composite Materials, 2004, 38, 2007-2024.	2.4	38
77	Design of Cellular Shear Bands of a Non-Pneumatic Tire -Investigation of Contact Pressure. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 3, 598-606.	0.4	53
78	Method to Design Honeycombs for a Shear Flexible Structure. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 3, 588-597.	0.4	18
79	Static Contact Behaviors of a Non-Pneumatic Tire with Hexagonal Lattice Spokes. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 6, 1518-1527.	0.4	29
80	A Computational Study of the Flow Around an Isolated Non-Pneumatic Tire. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 7, 405-412.	0.4	15
81	Optimization of Nonpneumatic Tire with Hexagonal Lattice Spokes for Reducing Rolling Resistance. , 0, , .		19
82	Deformation and Heat Generation in a Nonpneumatic Tire with Lattice Spokes. , 0, , .		4