

Tian Jian Lu

List of Publications by Year in descending order

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Version: 2024-02-01

113
papers

5,065
citations

126858

33
h-index

95218

68
g-index

118
all docs

118
docs citations

118
times ranked

8002
citing authors

#	ARTICLE	IF	CITATIONS
1	Advances in paper-based point-of-care diagnostics. <i>Biosensors and Bioelectronics</i> , 2014, 54, 585-597.	5.3	826
2	Functional and Biomimetic Materials for Engineering of the Three-Dimensional Cell Microenvironment. <i>Chemical Reviews</i> , 2017, 117, 12764-12850.	23.0	582
3	Upconversion nanoparticles based FRET aptasensor for rapid and ultrasensitive bacteria detection. <i>Biosensors and Bioelectronics</i> , 2017, 90, 525-533.	5.3	263
4	Engineering cell alignment in vitro. <i>Biotechnology Advances</i> , 2014, 32, 347-365.	6.0	220
5	Distance-Dependent Plasmon-Enhanced Fluorescence of Upconversion Nanoparticles using Polyelectrolyte Multilayers as Tunable Spacers. <i>Scientific Reports</i> , 2015, 5, 7779.	1.6	171
6	3D Spatiotemporal Mechanical Microenvironment: A Hydrogel-Based Platform for Guiding Stem Cell Fate. <i>Advanced Materials</i> , 2018, 30, e1705911.	11.1	162
7	3d printed continuous fiber reinforced composite auxetic honeycomb structures. <i>Composites Part B: Engineering</i> , 2020, 187, 107858.	5.9	161
8	Recent Advances in Electrospun Nanofibrous Scaffolds for Cardiac Tissue Engineering. <i>Advanced Functional Materials</i> , 2015, 25, 5726-5738.	7.8	159
9	Biofriendly, Stretchable, and Reusable Hydrogel Electronics as Wearable Force Sensors. <i>Small</i> , 2018, 14, e1801711.	5.2	144
10	Portable microfluidic and smartphone-based devices for monitoring of cardiovascular diseases at the point of care. <i>Biotechnology Advances</i> , 2016, 34, 305-320.	6.0	128
11	Recent Advances in Pen-Based Writing Electronics and their Emerging Applications. <i>Advanced Functional Materials</i> , 2016, 26, 165-180.	7.8	84
12	Spatially modulated stiffness on hydrogels for soft and stretchable integrated electronics. <i>Materials Horizons</i> , 2020, 7, 203-213.	6.4	70
13	Nanoscale integrin cluster dynamics controls cellular mechanosensing via FAKY397 phosphorylation. <i>Science Advances</i> , 2020, 6, eaax1909.	4.7	69
14	Cellular mechanosensing of the biophysical microenvironment: A review of mathematical models of biophysical regulation of cell responses. <i>Physics of Life Reviews</i> , 2017, 22-23, 88-119.	1.5	67
15	Heterostructured Silk-Nanofiber-Reduced Graphene Oxide Composite Scaffold for SH-SY5Y Cell Alignment and Differentiation. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 39228-39237.	4.0	64
16	Synthesis of upconversion NaYF ₄ :Yb ³⁺ ,Er ³⁺ particles with enhanced luminescent intensity through control of morphology and phase. <i>Journal of Materials Chemistry C</i> , 2014, 2, 3671-3676.	2.7	62
17	Harnessing the wide-range strain sensitivity of bilayered PEDOT:PSS films for wearable health monitoring. <i>Matter</i> , 2021, 4, 2886-2901.	5.0	59
18	Mechanoregulation of cardiac myofibroblast differentiation: implications for cardiac fibrosis and therapy. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2015, 309, H532-H542.	1.5	58

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19	Acoustic impedance regulation of Helmholtz resonators for perfect sound absorption via roughened embedded necks. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	58
20	Chineseâ€Noodleâ€Nspired Muscle Myofiber Fabrication. <i>Advanced Functional Materials</i> , 2015, 25, 5999-6008.	7.8	56
21	The Arabidopsis trichome is an active mechanosensory switch. <i>Plant, Cell and Environment</i> , 2017, 40, 611-621.	2.8	54
22	Engineering physical microenvironment for stem cell based regenerative medicine. <i>Drug Discovery Today</i> , 2014, 19, 763-773.	3.2	53
23	Tunable underwater acoustic metamaterials via quasi-Helmholtz resonance: From low-frequency to ultra-broadband. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	52
24	Magnetically actuated cell-laden microscale hydrogels for probing strain-induced cell responses in three dimensions. <i>NPG Asia Materials</i> , 2016, 8, e238-e238.	3.8	49
25	Engineering the Cell Microenvironment Using Novel Photoresponsive Hydrogels. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 12374-12389.	4.0	48
26	Paracrine Effects of Adipose-Derived Stem Cells on Matrix Stiffness-Induced Cardiac Myofibroblast Differentiation via Angiotensin II Type 1 Receptor and Smad7. <i>Scientific Reports</i> , 2016, 6, 33067.	1.6	46
27	Near-infrared light activated delivery platform for cancer therapy. <i>Advances in Colloid and Interface Science</i> , 2015, 226, 123-137.	7.0	42
28	Ballistic performance of UHMWPE laminated plates and UHMWPE encapsulated aluminum structures: Numerical simulation. <i>Composite Structures</i> , 2020, 252, 112686.	3.1	41
29	Axial compressive collapse of ultralight corrugated sandwich cylindrical shells. <i>Materials and Design</i> , 2018, 160, 325-337.	3.3	40
30	Mechanics-driven nuclear localization of YAP can be reversed by N-cadherin ligation in mesenchymal stem cells. <i>Nature Communications</i> , 2021, 12, 6229.	5.8	40
31	Hydrogel-based methods for engineering cellular microenvironment with spatiotemporal gradients. <i>Critical Reviews in Biotechnology</i> , 2016, 36, 1-13.	5.1	39
32	Non-invasive tracking of hydrogel degradation using upconversion nanoparticles. <i>Acta Biomaterialia</i> , 2017, 55, 410-419.	4.1	38
33	BioPen: direct writing of functional materials at the point of care. <i>Scientific Reports</i> , 2014, 4, 4872.	1.6	34
34	Regulation of Cell Behavior by Hydrostatic Pressure. <i>Applied Mechanics Reviews</i> , 2019, 71, 0408031-4080313.	4.5	34
35	Microstructural effects on permeability of Nitrocellulose membranes for biomedical applications. <i>Journal of Membrane Science</i> , 2020, 595, 117502.	4.1	34
36	Microfluidic Printing of Three-Dimensional Graphene Electroactive Microfibrous Scaffolds. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 2049-2058.	4.0	31

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37	An approach to quantifying 3D responses of cells to extreme strain. <i>Scientific Reports</i> , 2016, 6, 19550.	1.6	30
38	An Integrated Stochastic Model of Matrix-Stiffness-Dependent Filopodial Dynamics. <i>Biophysical Journal</i> , 2016, 111, 2051-2061.	0.2	30
39	Liquid on Paper: Rapid Prototyping of Soft Functional Components for Paper Electronics. <i>Scientific Reports</i> , 2015, 5, 11488.	1.6	27
40	Selective enhancement of red emission from upconversion nanoparticles via surface plasmon-coupled emission. <i>RSC Advances</i> , 2015, 5, 76825-76835.	1.7	27
41	Effects of sand filling on the dynamic response of corrugated core sandwich beams under foam projectile impact. <i>Composites Part B: Engineering</i> , 2020, 197, 108135.	5.9	27
42	High-Throughput Non-Contact Vitrification of Cell-Laden Droplets Based on Cell Printing. <i>Scientific Reports</i> , 2015, 5, 17928.	1.6	26
43	Fabrication of Microscale Hydrogels with Tailored Microstructures based on Liquid Bridge Phenomenon. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 11134-11140.	4.0	26
44	A laboratory experimental technique for simulating combined blast and impact loading. <i>International Journal of Impact Engineering</i> , 2019, 134, 103382.	2.4	26
45	Analytical fractal models for permeability and conductivity of open-cell metallic foams. <i>International Journal of Heat and Mass Transfer</i> , 2021, 177, 121509.	2.5	25
46	In vitro spatially organizing the differentiation in individual multicellular stem cell aggregates. <i>Critical Reviews in Biotechnology</i> , 2016, 36, 20-31.	5.1	24
47	Ultrarapid Inductive Rewarming of Vitrified Biomaterials with Thin Metal Forms. <i>Annals of Biomedical Engineering</i> , 2018, 46, 1857-1869.	1.3	23
48	Influence of prestress on ballistic performance of bi-layer ceramic composite armors: Experiments and simulations. <i>Composite Structures</i> , 2019, 227, 111258.	3.1	23
49	The acoustic radiation force of a focused ultrasound beam on a suspended eukaryotic cell. <i>Ultrasonics</i> , 2020, 108, 106205.	2.1	21
50	Optimal design of metallic corrugated sandwich panels with polyurea-metal laminate face sheets for simultaneous vibration attenuation and structural stiffness. <i>Composite Structures</i> , 2021, 256, 112994.	3.1	21
51	Dynamics of capillary flow in an undulated tube. <i>Physics of Fluids</i> , 2021, 33, .	1.6	21
52	Gradient Mechanical Properties Facilitate <i>Arabidopsis</i> Trichome as Mechanosensor. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 9755-9761.	4.0	20
53	On the modelling of heat and fluid transport in fibrous porous media: Analytical fractal models for permeability and thermal conductivity. <i>International Journal of Thermal Sciences</i> , 2022, 172, 107270.	2.6	20
54	Graphene-based field effect transistor in two-dimensional paper networks. <i>Analytica Chimica Acta</i> , 2016, 917, 101-106.	2.6	19

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55	Confinement effects on compressive and ballistic performance of ceramics: a review. <i>International Materials Reviews</i> , 2021, 66, 287-312.	9.4	19
56	Collective Wetting of a Natural Fibrous System and Its Application in Pump-Free Droplet Transfer. <i>Advanced Functional Materials</i> , 2017, 27, 1606607.	7.8	18
57	Characterizing poroelasticity of biological tissues by spherical indentation: An improved theory for large relaxation. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 138, 103920.	2.3	18
58	A volumetric meter chip for point-of-care quantitative detection of bovine catalase for food safety control. <i>Analytica Chimica Acta</i> , 2016, 935, 207-212.	2.6	17
59	The relationship between thiol-acrylate photopolymerization kinetics and hydrogel mechanics: An improved model incorporating photobleaching and thiol-Michael addition. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018, 88, 160-169.	1.5	16
60	Mechanical microenvironments of living cells: a critical frontier in mechanobiology. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019, 35, 265-269.	1.5	16
61	Sound propagation in porous materials containing rough tubes. <i>Physics of Fluids</i> , 2020, 32, .	1.6	16
62	Mathematical modeling of Stokes flow in petal shaped pipes. <i>Physics of Fluids</i> , 2019, 31, .	1.6	15
63	Crashworthiness of hierarchical truncated conical shells with corrugated cores. <i>International Journal of Mechanical Sciences</i> , 2021, 193, 106171.	3.6	15
64	Hydrogel Electronics: Biofriendly, Stretchable, and Reusable Hydrogel Electronics as Wearable Force Sensors (Small 36/2018). <i>Small</i> , 2018, 14, 1870166.	5.2	14
65	The protective effects of acupoint gel embedding on rats with myocardial ischemia-reperfusion injury. <i>Life Sciences</i> , 2018, 211, 51-62.	2.0	14
66	Bending Response of 3D-Printed Titanium Alloy Sandwich Panels with Corrugated Channel Cores. <i>Materials</i> , 2021, 14, 556.	1.3	14
67	Cylindrical compressible liquid inclusion with surface effects. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 161, 104813.	2.3	14
68	Self-Propelled Hovercraft Based on Cold Leidenfrost Phenomenon. <i>Scientific Reports</i> , 2016, 6, 28574.	1.6	13
69	Paper-based capacitive sensors for identification and quantification of chemicals at the point of care. <i>Talanta</i> , 2017, 165, 419-428.	2.9	12
70	A mechano-electrical coupling model of neurons under stretching. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 93, 213-221.	1.5	12
71	Sound absorption theory for micro-perforated panel with petal-shaped perforations. <i>Journal of the Acoustical Society of America</i> , 2020, 148, 18-24.	0.5	12
72	Enhancement of UHMWPE encapsulation on the ballistic performance of bi-layer mosaic armors. <i>Composites Part B: Engineering</i> , 2021, 221, 109023.	5.9	12

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73	The Plasticity of Nanofibrous Matrix Regulates Fibroblast Activation in Fibrosis. <i>Advanced Healthcare Materials</i> , 2021, 10, e2001856.	3.9	12
74	Underwater Acoustic Absorption of Composite Anechoic Layers With Inner Holes. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2019, 141, .	1.0	11
75	Theory of fluid saturated porous media with surface effects. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 151, 104392.	2.3	11
76	Stress state sensitivity for plastic flow and ductile fracture of L907A low-alloy marine steel: From tension to shear. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 835, 142689.	2.6	11
77	Fabrication of fluorescent composite hydrogel using in situ synthesis of upconversion nanoparticles. <i>Nanotechnology</i> , 2017, 28, 175702.	1.3	10
78	Ultralight micro-perforated sandwich panel with hierarchical honeycomb core for sound absorption. <i>Journal of Sandwich Structures and Materials</i> , 2022, 24, 201-217.	2.0	9
79	Regulation on mechanical properties of spherically cellular fruits under osmotic stress. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 127, 182-190.	2.3	8
80	Forced convection in additively manufactured sandwich-walled cylinders with thermo-mechanical multifunctionality. <i>International Journal of Heat and Mass Transfer</i> , 2020, 149, 119161.	2.5	8
81	Oblique crushing of truncated conical sandwich shell with corrugated core. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 2458-2471.	1.5	8
82	Evaporation-Induced Diffusion Acceleration in Liquid-Filled Porous Materials. <i>ACS Omega</i> , 2021, 6, 21646-21654.	1.6	8
83	Droplet based vitrification for cell aggregates: Numerical analysis. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018, 82, 383-393.	1.5	7
84	Volumetric response of an ellipsoidal liquid inclusion: implications for cell mechanobiology. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019, 35, 338-342.	1.5	7
85	A physically-based failure analysis framework for fiber-reinforced composite laminates under multiaxial loading. <i>Composite Structures</i> , 2020, 241, 112125.	3.1	7
86	Janus Vitrification of Droplet via Cold Leidenfrost Phenomenon. <i>Small</i> , 2021, 17, e2007325.	5.2	7
87	3D Free Vibration Analysis of Functionally Graded Plates with Arbitrary Boundary Conditions in Thermal Environment. <i>Advanced Engineering Materials</i> , 2022, 24, 2100636.	1.6	7
88	Out-of-plane compression of a novel hybrid corrugated core sandwich panel. <i>Composite Structures</i> , 2021, 272, 114222.	3.1	7
89	Role of Jakob number in Leidenfrost phenomena unveiled by theoretical modeling. <i>Physics of Fluids</i> , 2019, 31, 042109.	1.6	6
90	Sound absorption of petal shaped micro-channel porous materials. <i>Physics of Fluids</i> , 2021, 33, 063606.	1.6	6

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91	Localization of elastic waves in one-dimensional detuned phononic crystals with flexoelectric effect. <i>International Journal of Smart and Nano Materials</i> , 2022, 13, 244-262.	2.0	6
92	Engineering Artificial Machines from Designable DNA Materials for Biomedical Applications. <i>Tissue Engineering - Part B: Reviews</i> , 2015, 21, 288-297.	2.5	5
93	Dual-level stress plateaus in honeycombs subjected to impact loading: perspectives from bucklewaves, buckling and cell-wall progressive folding. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019, 35, 70-77.	1.5	5
94	The race to the nociceptor: mechanical versus temperature effects in thermal pain of dental neurons. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2017, 33, 260-266.	1.5	4
95	Mechanics tuning of liquid inclusions via bio-coating. <i>Extreme Mechanics Letters</i> , 2020, 41, 101049.	2.0	4
96	A theory of mechanobiological sensation: strain amplification/attenuation of coated liquid inclusion with surface tension. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2021, 37, 145-155.	1.5	4
97	The Role of Secondary Flows and Separation in Convective Heat Transfer in a Rotating Radial Vane Brake Disk. <i>Journal of Heat Transfer</i> , 2021, 143, .	1.2	4
98	Design of a novel LED bulb with entire surface thermally activated for passive cooling. <i>Applied Thermal Engineering</i> , 2021, 198, 117466.	3.0	4
99	Fountain streaming contributes to fast tip-growth through regulating the gradients of turgor pressure and concentration in pollen tubes. <i>Soft Matter</i> , 2017, 13, 2919-2927.	1.2	3
100	Torsional and translational vibrations of a eukaryotic nucleus, and the prospect of vibrational mechanotransduction and therapy. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 155, 104572.	2.3	3
101	Springback of a fully-clamped metallic beam loaded impulsively. <i>International Journal of Mechanics and Materials in Design</i> , 2022, 18, 435-459.	1.7	3
102	Hydrogel Fibers: Chinese "Noodle"-Inspired Muscle Myofiber Fabrication (<i>Adv. Funct. Mater.</i> 37/2015). <i>Advanced Functional Materials</i> , 2015, 25, 6020-6020.	7.8	2
103	Tissue Engineering: Recent Advances in Electrospun Nanofibrous Scaffolds for Cardiac Tissue Engineering (<i>Adv. Funct. Mater.</i> 36/2015). <i>Advanced Functional Materials</i> , 2015, 25, 5875-5875.	7.8	2
104	Biomechanics in plant resistance to drought. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2020, 36, 1142-1157.	1.5	2
105	Hydrostatic pressure and interfacial tension induce mode instability in wave propagation along a liquid-filled microtubule. <i>Physics of Fluids</i> , 2020, 32, 031901.	1.6	2
106	Characterizing in situ poroelastic properties of cytoplasm by the translation of a rigid spherical inclusion. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2021, 37, 194-200.	1.5	2
107	Effects of coating on dynamic stress concentration in fiber reinforced composites. <i>International Journal of Solids and Structures</i> , 2021, 222-223, 111029.	1.3	2
108	Multiple ballistic impacts of thin metallic plates: Numerical simulation. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2022, 236, 7962-7973.	1.1	2

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109	A new model of myofibroblast-cardiomyocyte interactions and their differences across species. <i>Biophysical Journal</i> , 2021, 120, 3764-3775.	0.2	1
110	Bioinspired Structures: Collective Wetting of a Natural Fibrous System and Its Application in Pump-Free Droplet Transfer (<i>Adv. Funct. Mater.</i> 22/2017). <i>Advanced Functional Materials</i> , 2017, 27, .	7.8	0
111	Vibration of a liquid-filled capillary tube. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 106, 103745.	1.5	0
112	Janus Particles: Janus Vitrification of Droplet via Cold Leidenfrost Phenomenon (<i>Small</i> 17/2021). <i>Small</i> , 2021, 17, 2170075.	5.2	0
113	Anomalous Loss of Stiffness with Increasing Reinforcement in a Photo-Activated Nanocomposite. <i>Macromolecular Rapid Communications</i> , 2021, 42, 2100147.	2.0	0