

# Dong Qian

## List of Publications by Year in descending order

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121  
papers

7,424  
citations

76326

40  
h-index

54911

84  
g-index

126  
all docs

126  
docs citations

126  
times ranked

7523  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Uniform Accurate Boundary Treatment for the One-Dimensional Non-Local Models. <i>Journal of Peridynamics and Nonlocal Modeling</i> , 2023, 5, 155-182.	2.9	1
2	The effect of resin uptake on the flexural properties of compression molded sandwich composites. <i>Wind Energy</i> , 2022, 25, 71-93.	4.2	187
3	Multiphysics modeling of in situ integration of directed energy deposition with ultrasonic nanocrystal surface modification. <i>International Journal of Advanced Manufacturing Technology</i> , 2022, 120, 5299-5310.	3.0	6
4	Microfluidic manipulation by spiral hollow-fibre actuators. <i>Nature Communications</i> , 2022, 13, 1331.	12.8	34
5	A Protein-like Nanogel for Spinning Hierarchically Structured Artificial Spider Silk. <i>Advanced Materials</i> , 2022, 34, e2201843.	21.0	30
6	A time-discontinuous peridynamic method for transient problems involving crack propagation. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 1824-1845.	2.8	4
7	Metamaterial-like aerogels for broadband vibration mitigation. <i>Soft Matter</i> , 2021, 17, 4496-4503.	2.7	6
8	Mechanical Properties of Atomically Thin Tungsten Dichalcogenides: $WS_2$ , $WSe_2$ , and $WTe_2$ . <i>ACS Nano</i> , 2021, 15, 2600-2610.	14.6	65
9	Layer-Dependent Mechanical Properties and Enhanced Plasticity in the Van der Waals Chromium Trihalide Magnets. <i>Nano Letters</i> , 2021, 21, 3379-3385.	9.1	31
10	Tensile Properties and Fracture Behavior of ATI 718Plus Alloy at Room and Elevated Temperatures. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2021, 52, 3553-3569.	2.2	4
11	Glycolytic preconditioning in astrocytes mitigates trauma-induced neurodegeneration. <i>ELife</i> , 2021, 10, .	6.0	13
12	Tensile and torsional elastomer fiber artificial muscle by entropic elasticity with thermo-piezoresistive sensing of strain and rotation by a single electric signal. <i>Materials Horizons</i> , 2020, 7, 3305-3315.	12.2	51
13	Computational Nanomechanics of Noncollagenous Interfibrillar Interface in Bone. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 25363-25373.	8.0	12
14	Design of Dendritic Large-Pore Mesoporous Silica Nanoparticles with Controlled Structure and Formation Mechanism in Dual-Templating Strategy. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 18823-18832.	8.0	36
15	Designing bioinspired brick-and-mortar composites using machine learning and statistical learning. <i>Communications Materials</i> , 2020, 1, .	6.9	17
16	Intrinsic elastic conductors with internal buckled electron pathway for flexible electromagnetic interference shielding and tumor ablation. <i>Science China Materials</i> , 2020, 63, 1318-1329.	6.3	13
17	An efficient solution algorithm for space-time finite element method. <i>Computational Mechanics</i> , 2019, 63, 455-470.	4.0	6
18	Photothermal Actuators: Photothermal Bimorph Actuators with In-Built Cooler for Light Mills, Frequency Switches, and Soft Robots ( <i>Adv. Funct. Mater.</i> 27/2019). <i>Advanced Functional Materials</i> , 2019, 29, 1970184.	14.9	5

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19	Torsional refrigeration by twisted, coiled, and supercoiled fibers. <i>Science</i> , 2019, 366, 216-221.	12.6	133
20	A high-performance multiscale space-time approach to high cycle fatigue simulation based on hybrid CPU/GPU computing. <i>Finite Elements in Analysis and Design</i> , 2019, 166, 103320.	3.2	3
21	Deformation Mechanisms of "Two-Part" Natural Adhesive in Bone Interfibrillar Nano-Interfaces. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 5916-5924.	5.2	6
22	Photothermal Bimorph Actuators with In-Built Cooler for Light Mills, Frequency Switches, and Soft Robots. <i>Advanced Functional Materials</i> , 2019, 29, 1808995.	14.9	88
23	A General Approach for Buckled Bulk Composites by Combined Biaxial Stretch and Layer-by-Layer Deposition and Their Electrical and Electromagnetic Applications. <i>Advanced Electronic Materials</i> , 2019, 5, 1800817.	5.1	19
24	Moisture Sensitive Smart Yarns and Textiles from Self-Balanced Silk Fiber Muscles. <i>Advanced Functional Materials</i> , 2019, 29, 1808241.	14.9	200
25	Controllable Preparation of Ordered and Hierarchically Buckled Structures for Inflatable Tumor Ablation, Volumetric Strain Sensor, and Communication via Inflatable Antenna. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 10862-10873.	8.0	15
26	Simulation and Experimental Comparison of Laser Impact Welding with a Plasma Pressure Model. <i>Metals</i> , 2019, 9, 1196.	2.3	16
27	Artificial spider silk from ion-doped and twisted core-sheath hydrogel fibres. <i>Nature Communications</i> , 2019, 10, 5293.	12.8	123
28	Prediction of Residual Stress Random Fields for Selective Laser Melted A357 Aluminum Alloy Subjected to Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2019, 141, .	2.2	16
29	Sheath-run artificial muscles. <i>Science</i> , 2019, 365, 150-155.	12.6	218
30	Effect of temperature on microstructure and residual stresses induced by surface treatments in Inconel 718 SPF. <i>Surface and Coatings Technology</i> , 2018, 344, 93-101.	4.8	25
31	Effect of ultrasonic nanocrystal surface modification on elevated temperature residual stress, microstructure, and fatigue behavior of ATI 718Plus alloy. <i>International Journal of Fatigue</i> , 2018, 110, 186-196.	5.7	37
32	Variable Damping Profiles Using Modal Analysis for Laser Shock Peening Simulation. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2018, 140, .	2.2	3
33	Effect of Ultrasonic Nanocrystal Surface Modification on residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 711, 364-377.	5.6	82
34	Effects of Ultrasonic Nanocrystal Surface Modification on the Residual Stress, Microstructure, and Corrosion Resistance of 304 Stainless Steel Welds. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 972-978.	2.2	23
35	Nonlocal matching boundary conditions for non-ordinary peridynamics with correspondence material model. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 338, 463-490.	6.6	19
36	A computational study on the microstructural evolution in near-surface copper grain boundary structures due to femtosecond laser processing. <i>Computational Mechanics</i> , 2018, 61, 105-117.	4.0	5

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37	Simulation-based prediction of cyclic failure in rubbery materials using nonlinear space-time finite element method coupled with continuum damage mechanics. <i>Finite Elements in Analysis and Design</i> , 2018, 138, 21-30.	3.2	6
38	Ultrafast Pulsed Laser Induced Nanocrystal Transformation in Colloidal Plasmonic Vesicles. <i>Advanced Optical Materials</i> , 2018, 6, 1800726.	7.3	10
39	Effect of the quenching residual stress on ductile fracture behavior of pre-stretched aluminum alloy plates. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2017, 39, 2259-2267.	1.6	5
40	Clustering of hydroxyapatite on a super-twisted collagen microfibril under mechanical tension. <i>Journal of Materials Chemistry B</i> , 2017, 5, 2235-2244.	5.8	11
41	Multi-physics simulation of metal printing at micro/nanoscale using meniscus-confined electrodeposition: Effect of environmental humidity. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	39
42	Lamellar Ceramic Semicrystalline Polymer Composite Fabricated by Freeze Casting. <i>Advanced Engineering Materials</i> , 2017, 19, 1700214.	3.5	8
43	Effect of laser shock peening on residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. <i>International Journal of Fatigue</i> , 2017, 102, 121-134.	5.7	109
44	Multi-physics simulation of metal printing at micro/nanoscale using meniscus-confined electrodeposition: Effect of nozzle speed and diameter. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	41
45	Mechanical properties of atomically thin boron nitride and the role of interlayer interactions. <i>Nature Communications</i> , 2017, 8, 15815.	12.8	576
46	Variable Damping Profiles for Laser Shock Peening Simulation Using Modal Analysis and the SEATD Method. , 2017, , .		2
47	Effect of laser shock peening on elevated temperature residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. <i>International Journal of Fatigue</i> , 2017, 104, 366-378.	5.7	66
48	Bioinspired Multifunctional Ceramic Platelet Reinforced Piezoelectric Polymer Composite. <i>Advanced Engineering Materials</i> , 2017, 19, 1600570.	3.5	11
49	2D Nanomaterials: Molecule-Induced Conformational Change in Boron Nitride Nanosheets with Enhanced Surface Adsorption ( <i>Adv. Funct. Mater.</i> 45/2016). <i>Advanced Functional Materials</i> , 2016, 26, 8356-8356.	14.9	1
50	Molecular Mechanism of Polarization and Piezoelectric Effect in Super-Twisted Collagen. <i>ACS Biomaterials Science and Engineering</i> , 2016, 2, 929-936.	5.2	53
51	Accelerated multiscale space-time finite element simulation and application to high cycle fatigue life prediction. <i>Computational Mechanics</i> , 2016, 58, 329-349.	4.0	11
52	Molecule-Induced Conformational Change in Boron Nitride Nanosheets with Enhanced Surface Adsorption. <i>Advanced Functional Materials</i> , 2016, 26, 8202-8210.	14.9	47
53	Iterative thermomechanical processing of alloy 600 for improved resistance to corrosion and stress corrosion cracking. <i>Acta Materialia</i> , 2016, 113, 180-193.	7.9	61
54	Strong, Twist-Stable Carbon Nanotube Yarns and Muscles by Tension Annealing at Extreme Temperatures. <i>Advanced Materials</i> , 2016, 28, 6598-6605.	21.0	100

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55	Surface amorphization of NiTi alloy induced by Ultrasonic Nanocrystal Surface Modification for improved mechanical properties. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 53, 455-462.	3.1	60
56	Coarse-grained modeling and simulation of graphene sheets based on a discrete hyperelastic approach. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 102, 450-467.	2.8	5
57	Hierarchically buckled sheath-core fibers for superelastic electronics, sensors, and muscles. <i>Science</i> , 2015, 349, 400-404.	12.6	447
58	Disulfide-bridged cleavable PEGylation in polymeric nanomedicine for controlled therapeutic delivery. <i>Nanomedicine</i> , 2015, 10, 1941-1958.	3.3	38
59	Surface grain boundary engineering of Alloy 600 for improved resistance to stress corrosion cracking. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 648, 280-288.	5.6	59
60	Harvesting temperature fluctuations as electrical energy using torsional and tensile polymer muscles. <i>Energy and Environmental Science</i> , 2015, 8, 3336-3344.	30.8	57
61	Effects of laser shock peening on SCC behavior of Alloy 600 in tetrathionate solution. <i>Corrosion Science</i> , 2015, 90, 434-444.	6.6	62
62	A simulation study on the significant nanomechanical heterogeneous properties of collagen. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015, 14, 445-457.	2.8	13
63	Generalized Matching Boundary Conditions Based on Fourier Transform Technique. <i>Journal of Nanomechanics &amp; Micromechanics</i> , 2014, 4, .	1.4	1
64	Experimental and Finite Element Simulation Study of Thermal Relaxation of Residual Stresses in Laser Shock Peened IN718 SPF Superalloy. <i>Experimental Mechanics</i> , 2014, 54, 1597-1611.	2.0	25
65	Effects of Ultrasonic Nano-Crystal Surface Modification on the Microstructure and Properties of 304 Austenitic Stainless Steel. , 2014, , .		0
66	Bridging scale simulation of lattice fracture using enriched space-time Finite Element Method. <i>International Journal for Numerical Methods in Engineering</i> , 2014, 97, 819-850.	2.8	15
67	The Sandia Fracture Challenge: blind round robin predictions of ductile tearing. <i>International Journal of Fracture</i> , 2014, 186, 5-68.	2.2	115
68	Ductile fracture in thin sheet metals: a FEM study of the Sandia fracture challenge problem based on the Gurson-Tvergaard-Needleman fracture model. <i>International Journal of Fracture</i> , 2014, 186, 185-200.	2.2	11
69	A multi-temporal scale approach to high cycle fatigue simulation. <i>Computational Mechanics</i> , 2014, 53, 387-400.	4.0	16
70	Gradient nanostructure and residual stresses induced by Ultrasonic Nano-crystal Surface Modification in 304 austenitic stainless steel for high strength and high ductility. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 613, 274-288.	5.6	258
71	Comparison of mechanisms of advanced mechanical surface treatments in nickel-based superalloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 576, 346-355.	5.6	119
72	A Multiscale Approach to the Influence of Geometry and Deformation on the Electronic Properties of Carbon Nanotubes. , 2013, , 247-255.		0

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73	Simulation-based optimization of laser shock peening process for improved bending fatigue life of Ti-6Al-2Sn-4Zr-2Mo alloy. Surface and Coatings Technology, 2013, 232, 464-474.	4.8	72
74	A MOVING-MESH GRADIENT SMOOTHING METHOD FOR COMPRESSIBLE CFD PROBLEMS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 273-305.	3.3	35
75	Concurrent Approach to Lattice Dynamics Based on Extended Space-Time Finite Element Method. , 2013, , .		0
76	Ductile Failure in Processed Thin Sheet Metals. , 2013, , .		0
77	Energy Loss in Carbon Nanotube Beam Oscillators due to Anelastic Relaxation. Journal of Engineering Materials and Technology, Transactions of the ASME, 2012, 134, .	1.4	3
78	FOLDING MECHANICS OF BI-LAYER GRAPHENE SHEET. Nano LIFE, 2012, 02, 1240007.	0.9	4
79	Thermal relaxation of residual stress in laser shock peened Ti-6Al-4V alloy. Surface and Coatings Technology, 2012, 206, 4619-4627.	4.8	77
80	Effect of the impact energy of various peening techniques on the induced plastic deformation region. Journal of Materials Processing Technology, 2012, 212, 1998-2006.	6.3	29
81	High spatial resolution, high energy synchrotron x-ray diffraction characterization of residual strains and stresses in laser shock peened Inconel 718SPF alloy. Journal of Applied Physics, 2012, 111, .	2.5	22
82	Enriched space-time finite element method: a new paradigm for multiscaling from elastodynamics to molecular dynamics. International Journal for Numerical Methods in Engineering, 2012, 92, 115-140.	2.8	18
83	Energy Dissipation and Intrinsic Loss in Single Walled Carbon Nanotubes due to Anelastic Relaxation. Journal of Nanoscience and Nanotechnology, 2011, 11, 1267-1272.	0.9	2
84	A Computational Study on the Transversal Visco-Elastic Properties of Single Walled Carbon Nanotubes and Their Relation to the Damping Mechanism. Journal of Computational and Theoretical Nanoscience, 2011, 8, 820-830.	0.4	4
85	A domain-reduction approach to bridging-scale simulation of one-dimensional nanostructures. Computational Mechanics, 2011, 47, 31-47.	4.0	7
86	A finite element study of thermal relaxation of residual stress in laser shock peened IN718 superalloy. International Journal of Impact Engineering, 2011, 38, 590-596.	5.0	85
87	Application of laser shock peening for spinal implant rods. International Journal of Structural Integrity, 2011, 2, 101-113.	3.3	24
88	Visco-elastic Properties of Carbon Nanotubes and Their Relation to Damping. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 259-265.	0.5	3
89	Domain Reduction Method for Periodic Nanostructure Modeling: Gold Nanorods, Carbon Nanotubes and Graphene Applications. , 2010, , .		0
90	Multiscale methods for mechanical science of complex materials: Bridging from quantum to stochastic multiresolution continuum. International Journal for Numerical Methods in Engineering, 2010, 83, 1039-1080.	2.8	47

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91	Elastic response of a carbon nanotube fiber reinforced polymeric composite: A numerical and experimental study. <i>Composites Part B: Engineering</i> , 2010, 41, 414-421.	12.0	126
92	Mechano-kinetic coupling approach for materials with dynamic internal structure. <i>Philosophical Magazine Letters</i> , 2010, 90, 471-480.	1.2	7
93	A Molecular Mechanics Study on the Effect of Surface Modification on the Interfacial Properties in Carbon Nanotube/Polystyrene Nanocomposites. <i>International Journal for Multiscale Computational Engineering</i> , 2010, 8, 151-165.	1.2	0
94	A boundary element method for the analysis of CNT/polymer composites with a cohesive interface model based on molecular dynamics. <i>Engineering Analysis With Boundary Elements</i> , 2008, 32, 299-308.	3.7	39
95	Special issue on Multiscale methods for nano- and bio-mechanics and materials. <i>Computational Mechanics</i> , 2008, 42, 483-484.	4.0	0
96	Multiscale simulation of nanostructures based on spatial secant model: a discrete hyperelastic approach. <i>Computational Mechanics</i> , 2008, 42, 557-567.	4.0	1
97	Meshfree simulation of failure modes in thin cylinders subjected to combined loads of internal pressure and localized heat. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 76, 1159-1184.	2.8	17
98	Concurrent quantum/continuum coupling analysis of nanostructures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 3291-3323.	6.6	21
99	Multiscale Modeling of Nanoscale Systems Based on Space/Time Formulation. , 2008, , .		0
100	Computational Nanomechanics of Materials. <i>Journal of Computational and Theoretical Nanoscience</i> , 2008, 5, 970-996.	0.4	15
101	Coarse-Grained Modeling and Simulation of Nanoscale Systems Based on Discrete Hyper-Elastic Model. , 2008, , .		0
102	A study on the tensile response and fracture in carbon nanotube-based composites using molecular mechanics. <i>Composites Science and Technology</i> , 2007, 67, 530-540.	7.8	126
103	Mechanics of Carbon Nanotubes1. <i>The Electrical Engineering Handbook</i> , 2007, , 23-1-23-63.	0.2	0
104	Improving the Mechanical Properties of Polycarbonate Nanocomposites with Plasma-Modified Carbon Nanofibers. <i>Journal of Macromolecular Science - Physics</i> , 2006, 45, 671-679.	1.0	25
105	Surface modification and ultrasonication effect on the mechanical properties of carbon nanofiber/polycarbonate composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2006, 37, 1270-1275.	7.6	78
106	Multiscale boundary conditions in crystalline solids: Theory and application to nanoindentation. <i>International Journal of Solids and Structures</i> , 2006, 43, 6359-6379.	2.7	36
107	Bridging scale methods for nanomechanics and materials. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 1407-1421.	6.6	135
108	A Constitutive Model for Nanomaterials Based on Spatial Secant. <i>International Journal for Multiscale Computational Engineering</i> , 2006, 4, 71-94.	1.2	3

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109	Application of a Discrete Model for the Concurrent Simulation of Nanostructures. , 2005, , .		0
110	A multiscale projection method for the analysis of carbon nanotubes. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 1603-1632.	6.6	149
111	A Virtual Atom Cluster Approach to the Mechanics of Nanostructures. International Journal for Multiscale Computational Engineering, 2004, 2, 277-290.	1.2	36
112	Mechanical properties of carbon nanotubes: theoretical predictions and experimental measurements. Comptes Rendus Physique, 2003, 4, 993-1008.	0.9	574
113	Load transfer mechanism in carbon nanotube ropes. Composites Science and Technology, 2003, 63, 1561-1569.	7.8	177
114	Effect of Interlayer Potential on Mechanical Deformation of Multiwalled Carbon Nanotubes. Journal of Nanoscience and Nanotechnology, 2003, 3, 185-191.	0.9	35
115	Mechanics of carbon nanotubes. Applied Mechanics Reviews, 2002, 55, 495-533.	10.1	983
116	Bent and Kinked Multi-Shell Carbon Nanotube - Treating the Interlayer Potential More Realistically. , 2002, , .		2
117	Mechanics of C60in Nanotubes. Journal of Physical Chemistry B, 2001, 105, 10753-10758.	2.6	161
118	A meshfree contact-detection algorithm. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 3271-3292.	6.6	53
119	Dynamic shear band propagation and micro-structure of adiabatic shear band. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 73-92.	6.6	81
120	Effective Models for Prediction of Springback In Flanging. Journal of Engineering Materials and Technology, Transactions of the ASME, 2001, 123, 456-461.	1.4	36
121	Locked twist in multiwalled carbon-nanotube ribbons. Physical Review B, 2001, 64, .	3.2	61