

Xi-Qiao Feng

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

431 papers	14,913 citations	53 h-index	107 g-index
453 ext. papers	16,951 ext. citations	4 avg, IF	6.93 L-index

#	Paper	IF	Citations
431	Effects of particle size, particle/matrix interface adhesion and particle loading on mechanical properties of particulate-polymer composites. <i>Composites Part B: Engineering</i> , 2008 , 39, 933-961	10	2142
430	Mechanics of morphological instabilities and surface wrinkling in soft materials: a review. <i>Soft Matter</i> , 2012 , 8, 5728	3.6	519
429	The Effect of Nanotube Waviness and Agglomeration on the Elastic Property of Carbon Nanotube-Reinforced Composites. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2004 , 126, 250-257	1.8	506
428	Zeolitic imidazolate framework 67-derived high symmetric porous Co ₃ O ₄ hollow dodecahedra with highly enhanced lithium storage capability. <i>Small</i> , 2014 , 10, 1932-8	11	403
427	Effects of surface elasticity and residual surface tension on the natural frequency of microbeams. <i>Applied Physics Letters</i> , 2007 , 90, 231904	3.4	358
426	Superior water repellency of water strider legs with hierarchical structures: experiments and analysis. <i>Langmuir</i> , 2007 , 23, 4892-6	4	285
425	Towards Understanding Why a Superhydrophobic Coating Is Needed by Water Striders. <i>Advanced Materials</i> , 2007 , 19, 2257-2261	24	252
424	Integrin activation and internalization on soft ECM as a mechanism of induction of stem cell differentiation by ECM elasticity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 9466-71	11.5	248
423	Surface effects on buckling of nanowires under uniaxial compression. <i>Applied Physics Letters</i> , 2009 , 94, 141913	3.4	244
422	Surface stress effect in mechanics of nanostructured materials. <i>Acta Mechanica Solida Sinica</i> , 2011 , 24, 52-82	2	234
421	Adhesion-dependent negative friction coefficient on chemically modified graphite at the nanoscale. <i>Nature Materials</i> , 2012 , 11, 1032-7	27	201
420	Ultrasonic technique for extracting nanofibers from nature materials. <i>Applied Physics Letters</i> , 2007 , 90, 073112	3.4	192
419	Timoshenko beam model for buckling and vibration of nanowires with surface effects. <i>Journal Physics D: Applied Physics</i> , 2009 , 42, 155411	3	190
418	Surface wrinkling patterns on a core-shell soft sphere. <i>Physical Review Letters</i> , 2011 , 106, 234301	7.4	177
417	Discontinuous crack-bridging model for fracture toughness analysis of nacre. <i>Journal of the Mechanics and Physics of Solids</i> , 2012 , 60, 1400-1419	5	176
416	Surface wrinkling of mucosa induced by volumetric growth: Theory, simulation and experiment. <i>Journal of the Mechanics and Physics of Solids</i> , 2011 , 59, 758-774	5	161
415	Mechanical properties and scaling laws of nanoporous gold. <i>Journal of Applied Physics</i> , 2013 , 113, 023505	5.5	137

4 ¹⁴	Effect of surface roughness on nanoindentation test of thin films. <i>Engineering Fracture Mechanics</i> , 2008 , 75, 4965-4972	4.2	122
4 ¹³	Efficient Self-Propelling of Small-Scale Condensed Microdrops by Closely Packed ZnO Nanoneedles. <i>Journal of Physical Chemistry Letters</i> , 2014 , 5, 2084-8	6.4	118
4 ¹²	Micromechanics prediction of the effective elastic moduli of graphene sheet-reinforced polymer nanocomposites. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2010 , 18, 045005	2	117
4 ¹¹	Printable Skin-Driven Mechanoluminescence Devices via Nanodoped Matrix Modification. <i>Advanced Materials</i> , 2018 , 30, e1800291	24	108
4 ¹⁰	Guided Self-Propelled Leaping of Droplets on a Micro-Anisotropic Superhydrophobic Surface. <i>Angewandte Chemie - International Edition</i> , 2016 , 55, 4265-9	16.4	108
4 ⁰⁹	Mechanical properties of silkworm cocoons. <i>Polymer</i> , 2005 , 46, 9192-9201	3.9	102
4 ⁰⁸	Effects of surface stresses on contact problems at nanoscale. <i>Journal of Applied Physics</i> , 2007 , 101, 013510	10	96
4 ⁰⁷	Interface thermal conductance and rectification in hybrid graphene/silicene monolayer. <i>Carbon</i> , 2014 , 79, 236-244	10.4	93
4 ⁰⁶	Mechanisms of superhydrophobicity on hydrophilic substrates. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 356002	1.8	93
4 ⁰⁵	Hierarchical chirality transfer in the growth of Towel Gourd tendrils. <i>Scientific Reports</i> , 2013 , 3, 3102	4.9	92
4 ⁰⁴	Effect of surface stresses on the vibration and buckling of piezoelectric nanowires. <i>Europhysics Letters</i> , 2010 , 91, 56007	1.6	90
4 ⁰³	Mechanical property of carbon nanotubes with intramolecular junctions: Molecular dynamics simulations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008 , 372, 6661-6666	2.3	89
4 ⁰²	Possible giant magnetoelectric effect of ferromagnetic rare-earth/iron-alloys-filled ferroelectric polymers. <i>Applied Physics Letters</i> , 2001 , 78, 2527-2529	3.4	87
4 ⁰¹	A Monte Carlo form-finding method for large scale regular and irregular tensegrity structures. <i>International Journal of Solids and Structures</i> , 2010 , 47, 1888-1898	3.1	85
4 ⁰⁰	Surface effects on the diffraction of plane compressional waves by a nanosized circular hole. <i>Applied Physics Letters</i> , 2006 , 89, 231923	3.4	84
399	Surface effects on the elastic modulus of nanoporous materials. <i>Applied Physics Letters</i> , 2009 , 94, 011916	6.4	82
398	Surface Stress Effects on the Bending Direction and Twisting Chirality of Lamellar Crystals of Chiral Polymer. <i>Macromolecules</i> , 2010 , 43, 5762-5770	5.5	80
397	Spherical indentation method for determining the constitutive parameters of hyperelastic soft materials. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014 , 13, 1-11	3.8	79

- 396 Spontaneous droplets gyrating via asymmetric self-splitting on heterogeneous surfaces. *Nature Communications*, **2019**, 10, 950 17.4 78
- 395 Mechanical exfoliation of two-dimensional materials. *Journal of the Mechanics and Physics of Solids*, **2018**, 115, 248-262 5 78
- 394 Buoyant force and sinking conditions of a hydrophobic thin rod floating on water. *Physical Review E*, **2007**, 76, 066103 2.4 78
- 393 Variability in mechanical properties of Bombyx mori silk. *Materials Science and Engineering C*, **2007**, 27, 675-683 8.3 74
- 392 A micromechanical model for interpenetrating multiphase composites. *Computational Materials Science*, **2003**, 28, 486-493 3.2 72
- 391 Self-assembly of single-walled carbon nanotubes into multiwalled carbon nanotubes in water: molecular dynamics simulations. *Nano Letters*, **2006**, 6, 430-4 11.5 69
- 390 Stiffness matrix based form-finding method of tensegrity structures. *Engineering Structures*, **2014**, 58, 36-48 4.7 68
- 389 Analysis of spherical indentation of superelastic shape memory alloys. *International Journal of Solids and Structures*, **2007**, 44, 1-17 3.1 62
- 388 On elastocapillarity: A review. *Acta Mechanica Sinica/Lixue Xuebao*, **2012**, 28, 928-940 2 60
- 387 Surface wrinkling and folding of core-shell soft cylinders. *Soft Matter*, **2012**, 8, 556-562 3.6 60
- 386 Mechanical properties of carbon nanotube ropes with hierarchical helical structures. *Journal of the Mechanics and Physics of Solids*, **2014**, 71, 64-83 5 59
- 385 Damage Micromechanics for Constitutive Relations and Failure of Microcracked Quasi-Brittle Materials. *International Journal of Damage Mechanics*, **2010**, 19, 911-948 3 58
- 384 Defect nucleation in carbon nanotubes under tension and torsion: Stone-Wales transformation. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 3419-3429 5.7 58
- 383 Growth and surface folding of esophageal mucosa: a biomechanical model. *Journal of Biomechanics*, **2011**, 44, 182-8 2.9 56
- 382 Mechanics of Smart-Cut technology. *International Journal of Solids and Structures*, **2004**, 41, 4299-4320 3.1 55
- 381 Surface Effects on the Near-Tip Stresses for Mode-I and Mode-III Cracks. *Journal of Applied Mechanics, Transactions ASME*, **2008**, 75, 2.7 54
- 380 Interface effects on effective elastic moduli of nanocrystalline materials. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2003**, 363, 1-8 5.3 54
- 379 A micromechanics-based damage model for microcrack-weakened brittle solids. *Mechanics of Materials*, **1995**, 20, 59-76 3.3 54

378	A continuum theory of surface piezoelectricity for nanodielectrics. <i>Science China: Physics, Mechanics and Astronomy</i> , 2011 , 54, 564-573	3.6	53
377	A Tensegrity Model of Cell Reorientation on Cyclically Stretched Substrates. <i>Biophysical Journal</i> , 2016 , 111, 1478-1486	2.9	53
376	Instabilities of soft films on compliant substrates. <i>Journal of the Mechanics and Physics of Solids</i> , 2017 , 98, 350-365	5	50
375	Experimental study on the mechanical properties of the horn sheaths from cattle. <i>Journal of Experimental Biology</i> , 2010 , 213, 479-86	3	50
374	Twisting of nanowires induced by anisotropic surface stresses. <i>Applied Physics Letters</i> , 2008 , 92, 191901	3.4	50
373	A multiscale crack-bridging model of cellulose nanopaper. <i>Journal of the Mechanics and Physics of Solids</i> , 2017 , 103, 22-39	5	49
372	Buckling and post-buckling of a stiff film resting on an elastic graded substrate. <i>International Journal of Solids and Structures</i> , 2012 , 49, 1656-1664	3.1	48
371	Two-dimensional Hertzian contact problem with surface tension. <i>International Journal of Solids and Structures</i> , 2012 , 49, 1588-1594	3.1	48
370	An enriched radial point interpolation method (e-RPIM) for analysis of crack tip fields. <i>Engineering Fracture Mechanics</i> , 2011 , 78, 175-190	4.2	48
369	Structures, properties, and functions of the stings of honey bees and paper wasps: a comparative study. <i>Biology Open</i> , 2015 , 4, 921-8	2.2	47
368	Shakedown analysis of shape memory alloy structures. <i>International Journal of Plasticity</i> , 2007 , 23, 183-206	2.6	47
367	On flaw tolerance of nacre: a theoretical study. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20131016	4.1	46
366	Pattern instability of a soft elastic thin film under van der Waals forces. <i>Mechanics of Materials</i> , 2006 , 38, 88-99	3.3	46
365	Impacts of environments on nanoscale wear behavior of graphene: Edge passivation vs. substrate pinning. <i>Carbon</i> , 2018 , 139, 59-66	10.4	45
364	Mechanical properties of silkworm cocoon pelades. <i>Engineering Fracture Mechanics</i> , 2007 , 74, 1953-1962	4.2	45
363	Estimate of effective elastic moduli with microcrack interaction effects. <i>Theoretical and Applied Fracture Mechanics</i> , 2000 , 34, 225-233	3.7	45
362	Effects of tension-compression asymmetry on the surface wrinkling of film-substrate systems. <i>Journal of the Mechanics and Physics of Solids</i> , 2016 , 94, 88-104	5	44
361	Perspectives in mechanics of heterogeneous solids. <i>Acta Mechanica Solida Sinica</i> , 2011 , 24, 1-26	2	43

360	Surface effects in various bending-based test methods for measuring the elastic property of nanowires. <i>Nanotechnology</i> , 2010 , 21, 205702	3.4	43
359	Biochemomechanical poroelastic theory of avascular tumor growth. <i>Journal of the Mechanics and Physics of Solids</i> , 2016 , 94, 409-432	5	41
358	Interface effects on the diffraction of plane compressional waves by a nanosized spherical inclusion. <i>Journal of Applied Physics</i> , 2007 , 102, 043533	2.5	41
357	A simple method for calculating interaction of numerous microcracks and its applications. <i>International Journal of Solids and Structures</i> , 2003 , 40, 447-464	3.1	41
356	Dynamic stress intensity factors of a semi-infinite crack in an orthotropic functionally graded material. <i>Mechanics of Materials</i> , 2008 , 40, 37-47	3.3	40
355	Effective Elastic and Plastic Properties of Interpenetrating Multiphase Composites. <i>Applied Composite Materials</i> , 2004 , 11, 33-55	2	40
354	Surface effects on mode-I crack tip fields: A numerical study. <i>Engineering Fracture Mechanics</i> , 2010 , 77, 1048-1057	4.2	39
353	Surface effects on the near-tip stress fields of a mode-II crack. <i>International Journal of Fracture</i> , 2008 , 151, 95-106	2.3	38
352	Effects of nanofiber orientations on the fracture toughness of cellulose nanopaper. <i>Engineering Fracture Mechanics</i> , 2018 , 194, 350-361	4.2	37
351	Activation and synchronization of the oscillatory morphodynamics in multicellular monolayer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 8157-8162	11.5	37
350	A piezoelectric constitutive theory with rotation gradient effects. <i>European Journal of Mechanics, A/Solids</i> , 2004 , 23, 455-466	3.7	37
349	Directional Motion of Droplets in a Conical Tube or on a Conical Fibre. <i>Chinese Physics Letters</i> , 2007 , 24, 3210-3213	1.8	36
348	Dynamic Migration Modes of Collective Cells. <i>Biophysical Journal</i> , 2018 , 115, 1826-1835	2.9	36
347	Study of biomechanical, anatomical, and physiological properties of scorpion stingers for developing biomimetic materials. <i>Materials Science and Engineering C</i> , 2016 , 58, 1112-21	8.3	35
346	Functional map of biological and biomimetic materials with hierarchical surface structures. <i>RSC Advances</i> , 2015 , 5, 66901-66926	3.7	35
345	Deep neural network method for predicting the mechanical properties of composites. <i>Applied Physics Letters</i> , 2019 , 115, 161901	3.4	35
344	Surface effects on the mechanical properties of nanoporous materials. <i>Nanotechnology</i> , 2011 , 22, 265714	3.4	35
343	Effective elastic properties of nanoporous materials with hierarchical structure. <i>Acta Materialia</i> , 2011 , 59, 6801-6808	8.4	35

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341	Revisiting the Critical Condition for the Cassie-Wenzel Transition on Micropillar-Structured Surfaces. <i>Langmuir</i> , 2018 , 34, 3838-3844	4	34
340	Theoretical model and design of electroadhesive pad with interdigitated electrodes. <i>Materials and Design</i> , 2016 , 89, 485-491	8.1	33
339	Microtensile tests of mechanical properties of nanoporous Au thin films. <i>Journal of Materials Science</i> , 2009 , 44, 4728-4733	4.3	33
338	Self-equilibrium and super-stability of truncated regular polyhedral tensegrity structures: a unified analytical solution. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012 , 468, 3323-3347	2.4	33
337	Superior flexibility of super carbon nanotubes: Molecular dynamics simulations. <i>Applied Physics Letters</i> , 2007 , 91, 043108	3.4	33
336	Molecular-dynamic studies of carbon-water-carbon composite nanotubes. <i>Small</i> , 2006 , 2, 1348-55	11	33
335	Multiscale Analysis of Fracture of Carbon Nanotubes Embedded in Composites. <i>International Journal of Fracture</i> , 2005 , 134, 369-386	2.3	33
334	Tuning friction to a superlubric state via in-plane straining. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 24452-24456	11.5	32
333	Correlation of the thermal and electrical conductivities of nanoporous gold. <i>Nanotechnology</i> , 2010 , 21, 85703	3.4	32
332	The Role of Adaptive-Deformation of Water Strider Leg in Its Walking on Water. <i>Journal of Adhesion Science and Technology</i> , 2009 , 23, 493-501	2	32
331	Elasticity-driven droplet movement on a microbeam with gradient stiffness: a biomimetic self-propelling mechanism. <i>Journal of Colloid and Interface Science</i> , 2008 , 323, 133-40	9.3	32
330	Surface buckling of a bending microbeam due to surface elasticity. <i>Europhysics Letters</i> , 2007 , 77, 44002	1.6	32
329	Effects of thickness on mechanical properties of conducting polythiophene films. <i>Journal of Materials Science Letters</i> , 2002 , 21, 715-717		32
328	Wrinkling micropatterns regulated by a hard skin layer with a periodic stiffness distribution on a soft material. <i>Applied Physics Letters</i> , 2016 , 108, 021903	3.4	32
327	Curvature induced hierarchical wrinkling patterns in soft bilayers. <i>Soft Matter</i> , 2016 , 12, 7977-7982	3.6	31
326	Constructing tensegrity structures from one-bar elementary cells. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2010 , 466, 45-61	2.4	31
325	Role of flexibility in the water repellency of water strider legs: theory and experiment. <i>Physical Review E</i> , 2012 , 85, 021607	2.4	31

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- 323 Giant energy absorption capacity of graphene-based carbon honeycombs. *Carbon*, **2017**, 118, 348-357 10.4 30
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305	Axial compression-induced wrinkles on a core-shell soft cylinder: Theoretical analysis, simulations and experiments. <i>Journal of the Mechanics and Physics of Solids</i> , 2014 , 73, 212-227	5	26
304	On shakedown of three-dimensional elastoplastic strain-hardening structures. <i>International Journal of Plasticity</i> , 1996 , 12, 1241-1256	7.6	26
303	Collective dynamics of cancer cells confined in a confluent monolayer of normal cells. <i>Journal of Biomechanics</i> , 2017 , 52, 140-147	2.9	25
302	Anisotropic surface effects on the formation of chiral morphologies of nanomaterials. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012 , 468, 609-633	2.4	25
301	Coarse-grained mechanochemical model for simulating the dynamic behavior of microtubules. <i>Physical Review E</i> , 2011 , 84, 031933	2.4	25
300	Quasi-micromechanical damage model for brittle solids with interacting microcracks. <i>Mechanics of Materials</i> , 2004 , 36, 261-273	3.3	25
299	Guided Self-Propelled Leaping of Droplets on a Micro-Anisotropic Superhydrophobic Surface. <i>Angewandte Chemie</i> , 2016 , 128, 4337-4341	3.6	25
298	Structures, properties, and energy-storage mechanisms of the semi-lunar process cuticles in locusts. <i>Scientific Reports</i> , 2016 , 6, 35219	4.9	24
297	A unified solution for self-equilibrium and super-stability of rhombic truncated regular polyhedral tensegrities. <i>International Journal of Solids and Structures</i> , 2013 , 50, 234-245	3.1	24
296	Disentangling longitudinal and shear elastic waves by neo-Hookean soft devices. <i>Applied Physics Letters</i> , 2015 , 106, 161903	3.4	24
295	Stone-Wales transformation: Precursor of fracture in carbon nanotubes. <i>International Journal of Mechanical Sciences</i> , 2006 , 48, 1464-1470	5.5	24
294	Morphomechanics of bacterial biofilms undergoing anisotropic differential growth. <i>Applied Physics Letters</i> , 2016 , 109, 143701	3.4	24
293	A non-equilibrium thermodynamic model for tumor extracellular matrix with enzymatic degradation. <i>Journal of the Mechanics and Physics of Solids</i> , 2017 , 104, 32-56	5	23
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290	A truncated conical beam model for analysis of the vibration of rat whiskers. <i>Journal of Biomechanics</i> , 2013 , 46, 1987-95	2.9	23
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- 288 Static and dynamic mechanical properties of cattle horns. *Materials Science and Engineering C*, **2011**, 31, 179-183 8.3 23
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- 272 Determination of transformation stresses of shape memory alloy thin films: A method based on spherical indentation. *Applied Physics Letters*, **2006**, 88, 241912 3.4 21
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269	Contact stiffness of regularly patterned multi-asperity interfaces. <i>Journal of the Mechanics and Physics of Solids</i> , 2018 , 111, 277-289	5	20
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267	Buckling of an elastic fiber with finite length in a soft matrix. <i>Soft Matter</i> , 2016 , 12, 2086-94	3.6	20
266	Hierarchical multiscale model for biomechanics analysis of microfilament networks. <i>Journal of Applied Physics</i> , 2013 , 113, 194701	2.5	20
265	Theoretical study of the competition between cell-cell and cell-matrix adhesions. <i>Physical Review E</i> , 2009 , 80, 011921	2.4	20
264	Controllable nanostructural transitions in grafted nanoparticle-block copolymer composites. <i>Nano Research</i> , 2010 , 3, 356-362	10	20
263	A Numerical Method for Simulating Nonlinear Mechanical Responses of Tensegrity Structures Under Large Deformations. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2013 , 80,	2.7	19
262	A new micro-tensile system for measuring the mechanical properties of low-dimensional materialsFibers and films. <i>Polymer Testing</i> , 2007 , 26, 513-518	4.5	19
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259	A molecular mechanisms-based biophysical model for two-phase cell spreading. <i>Applied Physics Letters</i> , 2010 , 96, 043703	3.4	18
258	Effect of interfacial slippage in peel test: theoretical model. <i>European Physical Journal E</i> , 2007 , 23, 67-76	1.5	18
257	A new damage model for microcrack-weakened brittle solids. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 1993 , 9, 251-260	2	18
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