Nicola Pugno

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8203648/publications.pdf

Version: 2024-02-01

355 papers	15,062 citations	34016 52 h-index	24915 109 g-index
376 all docs	376 docs citations	376 times ranked	19448 citing authors

#	Article	IF	Citations
1	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. Nanoscale, 2015, 7, 4598-4810.	2.8	2,452
2	Multifunctionality and control of the crumpling and unfolding of large-area graphene. Nature Materials, 2013, 12, 321-325.	13.3	735
3	YAP regulates cell mechanics by controlling focal adhesion assembly. Nature Communications, 2017, 8, 15321.	5.8	431
4	Nonlinear material behaviour of spider silk yields robust webs. Nature, 2012, 482, 72-76.	13.7	383
5	Molecular and Nanostructural Mechanisms of Deformation, Strength and Toughness of Spider Silk Fibrils. Nano Letters, 2010, 10, 2626-2634.	4.5	362
6	Modeling and simulation in tribology across scales: An overview. Tribology International, 2018, 125, 169-199.	3.0	335
7	Production and processing of graphene and related materials. 2D Materials, 2020, 7, 022001.	2.0	333
8	Quantized fracture mechanics. Philosophical Magazine, 2004, 84, 2829-2845.	0.7	280
9	Cleaning interfaces in layered materials heterostructures. Nature Communications, 2018, 9, 5387.	5.8	272
10	Microfluidization of Graphite and Formulation of Graphene-Based Conductive Inks. ACS Nano, 2017, 11, 2742-2755.	7.3	257
11	Large scale mechanical metamaterials as seismic shields. New Journal of Physics, 2016, 18, 083041.	1.2	246
12	Experiments and modeling of carbon nanotube-based NEMS devices. Journal of the Mechanics and Physics of Solids, 2005, 53, 1314-1333.	2.3	180
13	Toward Stretchable Selfâ€Powered Sensors Based on the Thermoelectric Response of PEDOT:PSS/Polyurethane Blends. Advanced Functional Materials, 2018, 28, 1704285.	7.8	171
14	Spatulate structures in biological fibrillar adhesion. Soft Matter, 2010, 6, 3269.	1.2	168
15	Coupling local resonance with Bragg band gaps in single-phase mechanical metamaterials. Extreme Mechanics Letters, 2017, 12, 30-36.	2.0	164
16	Extreme strength observed in limpet teeth. Journal of the Royal Society Interface, 2015, 12, 20141326.	1.5	163
17	Bio-mimetic mechanisms of natural hierarchical materials: A review. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 19, 3-33.	1.5	155
18	Are scaling laws on strength of solids related to mechanics or to geometry?. Nature Materials, 2005, 4, 421-423.	13.3	153

#	Article	IF	Citations
19	Nanoscale Mechanics of Graphene and Graphene Oxide in Composites: A Scientific and Technological Perspective. Advanced Materials, 2016, 28, 6232-6238.	11.1	137
20	Proof of Concept for an Ultrasensitive Technique to Detect and Localize Sources of Elastic Nonlinearity Using Phononic Crystals. Physical Review Letters, 2017, 118, 214301.	2.9	128
21	Hierarchical self-entangled carbon nanotube tube networks. Nature Communications, 2017, 8, 1215.	5.8	120
22	Protein disorderâ€“order interplay to guide the growth of hierarchical mineralized structures. Nature Communications, 2018, 9, 2145.	5.8	119
23	Predictive modelling-based design and experiments for synthesis and spinning of bioinspired silk fibres. Nature Communications, 2015, 6, 6892.	5.8	118
24	3D Micropatterned Surface Inspired by Salvinia molesta via Direct Laser Lithography. ACS Applied Materials & Interfaces, 2015, 7, 25560-25567.	4.0	103
25	Coherently aligned nanoparticles within a biogenic single crystal: A biological prestressing strategy. Science, 2017, 358, 1294-1298.	6.0	97
26	Enhancement of interfacial adhesion in glass fiber/epoxy composites by electrophoretic deposition of graphene oxide on glass fibers. Composites Science and Technology, 2016, 126, 149-157.	3.8	96
27	Numerical Analysis of Nanotube Based NEMS Devices â€" Part II: Role of Finite Kinematics, Stretching and Charge Concentrations. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 726-731.	1.1	94
28	Spider web-structured labyrinthine acoustic metamaterials for low-frequency sound control. New Journal of Physics, 2017, 19, 105001.	1.2	92
29	In-plane elastic buckling of hierarchical honeycomb materials. European Journal of Mechanics, A/Solids, 2012, 34, 120-129.	2.1	86
30	A translational nanoactuator based on carbon nanoscrolls on substrates. Applied Physics Letters, 2010, 96, .	1.5	81
31	Design and Fabrication of Bioinspired Hierarchical Dissipative Elastic Metamaterials. Physical Review Applied, 2018, 10, .	1.5	80
32	Spider web-inspired acoustic metamaterials. Applied Physics Letters, 2016, 109, .	1.5	79
33	Mimicking nacre with super-nanotubes for producing optimized super-composites. Nanotechnology, 2006, 17, 5480-5484.	1.3	78
34	Synergistic effect of graphene nanoplatelets and carbon black in multifunctional EPDM nanocomposites. Composites Science and Technology, 2016, 128, 123-130.	3.8	78
35	Hierarchical Fibers with a Negative Poissonâ€™s Ratio for Tougher Composites. Materials, 2013, 6, 699-712.	1.3	75
36	Wetting theory for small droplets on textured solid surfaces. Scientific Reports, 2016, 6, 37813.	1.6	72

#	Article	IF	Citations
37	Tunable Core Size of Carbon Nanoscrolls. Journal of Computational and Theoretical Nanoscience, 2010, 7, 517-521.	0.4	70
38	Scaling of energy dissipation in crushing and fragmentation: a fractal and statistical analysis based on particle size distribution. International Journal of Fracture, 2004, 129, 131-139.	1.1	68
39	Dynamic quantized fracture mechanics. International Journal of Fracture, 2006, 140, 159-168.	1.1	67
40	Tubular Adhesive Joints Under Axial Load. Journal of Applied Mechanics, Transactions ASME, 2003, 70, 832-839.	1.1	65
41	The theory of multiple peeling. International Journal of Fracture, 2011, 171, 185-193.	1.1	65
42	Failure Processes in Embedded Monolayer Graphene under Axial Compression. Scientific Reports, 2014, 4, 5271.	1.6	65
43	Tuning frequency band gaps of tensegrity mass-spring chains with local and global prestress. International Journal of Solids and Structures, 2018, 155, 47-56.	1.3	65
44	Observation of optimal gecko's adhesion on nanorough surfaces. BioSystems, 2008, 94, 218-222.	0.9	63
45	Modelling of the strengthâ€“porosity relationship in glass-ceramic foam scaffolds for bone repair. Journal of the European Ceramic Society, 2014, 34, 2663-2673.	2.8	62
46	Gigahertz breathing oscillators based on carbon nanoscrolls. Applied Physics Letters, 2009, 95, .	1.5	59
47	A fractal comminution approach to evaluate the drilling energy dissipation. International Journal for Numerical and Analytical Methods in Geomechanics, 2002, 26, 499-513.	1.7	58
48	Accordion-like metamaterials with tunable ultra-wide low-frequency band gaps. New Journal of Physics, 2018, 20, 073051.	1.2	58
49	Critical length scales and strain localization govern the mechanical performance of multi-layer graphene assemblies. Nanoscale, 2016, 8, 6456-6462.	2.8	57
50	Spider silk reinforced by graphene or carbon nanotubes. 2D Materials, 2017, 4, 031013.	2.0	57
51	Mechanical Stability of Flexible Graphene-Based Displays. ACS Applied Materials & Interfaces, 2016, 8, 22605-22614.	4.0	56
52	Modeling of the planetary ball-milling process: The case study of ceramic powders. Journal of the European Ceramic Society, 2016, 36, 2205-2212.	2.8	56
53	Adhesion of Elastic Thin Films: Double Peeling of Tapes Versus Axisymmetric Peeling of Membranes. Tribology Letters, 2013, 52, 439-447.	1.2	55
54	The role of defects in the design of space elevator cable: From nanotube to megatube. Acta Materialia, 2007, 55, 5269-5279.	3.8	54

#	Article	IF	Citations
55	A general shape/size-effect law for nanoindentation. Acta Materialia, 2007, 55, 1947-1953.	3.8	52
56	Mechanical Peeling of Freeâ€Standing Singleâ€Walled Carbonâ€Nanotube Bundles. Small, 2010, 6, 438-445.	5.2	52
57	In Situ Exfoliation of Graphene in Epoxy Resins: A Facile Strategy to Efficient and Large Scale Graphene Nanocomposites. ACS Applied Materials & Interfaces, 2016, 8, 24112-24122.	4.0	52
58	Conversionless efficient and broadband laser light diffusers for high brightness illumination applications. Nature Communications, 2020, 11, 1437.	5.8	52
59	Unveiling the morphology of the acetabulum in octopus suckers and its role in attachment. Interface Focus, 2015, 5, 20140050.	1.5	51
60	Nitrile butadiene rubber composites reinforced with reduced graphene oxide and carbon nanotubes show superior mechanical, electrical and icephobic properties. Composites Science and Technology, 2018, 166, 109-114.	3.8	51
61	One, Two, and Three-Dimensional Universal Laws for Fragmentation due to Impact and Explosion. Journal of Applied Mechanics, Transactions ASME, 2002, 69, 854-856.	1.1	48
62	Multiscale Stochastic Simulations for Tensile Testing of Nanotubeâ€Based Macroscopic Cables. Small, 2008, 4, 1044-1052.	5.2	48
63	A frequency-based hypothesis for mechanically targeting and selectively attacking cancer cells. Journal of the Royal Society Interface, 2015, 12, 20150656.	1.5	48
64	Synergetic Material and Structure Optimization Yields Robust Spider Web Anchorages. Small, 2013, 9, 2747-2756.	5.2	46
65	Octopus-like suction cups: from natural to artificial solutions. Bioinspiration and Biomimetics, 2015, 10, 035004.	1.5	46
66	Scale Effects on the Ballistic Penetration of Graphene Sheets. Scientific Reports, 2018, 8, 6750.	1.6	46
67	Structural Defects Modulate Electronic and Nanomechanical Properties of 2D Materials. ACS Nano, 2021, 15, 2520-2531.	7.3	46
68	The design of self-collapsed super-strong nanotube bundles. Journal of the Mechanics and Physics of Solids, 2010, 58, 1397-1410.	2.3	45
69	Nanoindentation cannot accurately predict the tensile strength of graphene or other 2D materials. Nanoscale, 2015, 7, 15672-15679.	2.8	44
70	Metamaterials-based sensor to detect and locate nonlinear elastic sources. Applied Physics Letters, 2015, 107, .	1.5	43
71	Disordered protein-graphene oxide co-assembly and supramolecular biofabrication of functional fluidic devices. Nature Communications, 2020, 11, 1182.	5.8	42
72	High-yield production of a super-soluble miniature spidroin for biomimetic high-performance materials. Materials Today, 2021, 50, 16-23.	8.3	42

#	Article	IF	Citations
73	Cracks and re-entrant corners in functionally graded materials. Engineering Fracture Mechanics, 2006, 73, 1279-1291.	2.0	41
74	New quantized failure criteria: application to nanotubes and nanowires. International Journal of Fracture, 2006, 141, 313-323.	1.1	41
75	A Design of Experiment Rational Optimization of the Degumming Process and Its Impact on the Silk Fibroin Properties. ACS Biomaterials Science and Engineering, 2021, 7, 1374-1393.	2.6	41
76	Analysis of Doubly Clamped Nanotube Devices in the Finite Deformation Regime. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 445-449.	1.1	40
77	Mechanics of carbon nanoscrolls: a review. Acta Mechanica Solida Sinica, 2010, 23, 484-497.	1.0	40
78	Evidence of optimal interfaces in bio-inspired ceramic-composite panels for superior ballistic protection. Journal of the European Ceramic Society, 2014, 34, 2823-2831.	2.8	39
79	Experimental analysis of self-healing cement-based materials incorporating extruded cementitious hollow tubes. Journal of Intelligent Material Systems and Structures, 2016, 27, 2633-2652.	1.4	39
80	Designing graphene based nanofoams with nonlinear auxetic and anisotropic mechanical properties under tension or compression. Carbon, 2017, 111, 796-806.	5.4	39
81	Mechanical and thermal properties of graphene random nanofoams via Molecular Dynamics simulations. Carbon, 2018, 132, 766-775.	5.4	39
82	Friction and Adhesion of Different Structural Defects of Graphene. ACS Applied Materials & Interfaces, 2018, 10, 44614-44623.	4.0	39
83	Richter's laws at the laboratory scale interpreted by acoustic emission. Magazine of Concrete Research, 2006, 58, 619-625.	0.9	38
84	Graphene and Carbon Nanotube Auxetic Rubber Bionic Composites with Negative Variation of the Electrical Resistance and Comparison with Their Nonbionic Counterparts. Advanced Functional Materials, 2017, 27, 1606526.	7.8	38
85	Hierarchical fiber bundle model to investigate the complex architectures of biological materials. Physical Review E, 2012, 85, 011903.	0.8	37
86	Influence of free carbon on the Young's modulus and hardness of polymerâ€derived silicon oxycarbide glasses. Journal of the American Ceramic Society, 2019, 102, 907-913.	1.9	37
87	Topologically engineered 3D printed architectures with superior mechanical strength. Materials Today, 2021, 48, 72-94.	8.3	37
88	Electrospinning of p -Aramid Fibers. Macromolecular Materials and Engineering, 2015, 300, 1238-1245.	1.7	36
89	Static and dynamic friction of hierarchical surfaces. Physical Review E, 2016, 94, 063003.	0.8	35
90	Investigating the role of hierarchy on the strength of composite materials: evidence of a crucial synergy between hierarchy and material mixing. Nanoscale, 2012, 4, 1200.	2.8	34

#	Article	IF	Citations
91	Enhancement of the Biological and Mechanical Performances of Sintered Hydroxyapatite by Multiple Ions Doping. Frontiers in Materials, 2020, 7, .	1.2	33
92	Design of micro-nanoscale bio-inspired hierarchical materials. Philosophical Magazine Letters, 2008, 88, 397-405.	0.5	32
93	Plastic collapse of cylindrical shell-plate periodic honeycombs under uniaxial compression: experimental and numerical analyses. International Journal of Mechanical Sciences, 2016, 111-112, 125-133.	3.6	32
94	Nanomechanics of individual aerographite tetrapods. Nature Communications, 2017, 8, 14982.	5.8	32
95	2D Material Armors Showing Superior Impact Strength of Few Layers. ACS Applied Materials & Interfaces, 2017, 9, 40820-40830.	4.0	32
96	Folding Large Grapheneâ€onâ€Polymer Films Yields Laminated Composites with Enhanced Mechanical Performance. Advanced Materials, 2018, 30, e1707449.	11.1	32
97	Buckling soft tensegrities: Fickle elasticity and configurational switching in living cells. Journal of the Mechanics and Physics of Solids, 2019, 124, 299-324.	2.3	32
98	Stretch-induced softening of bending rigidity in graphene. Applied Physics Letters, 2012, 100, .	1.5	31
99	Synthesis of single layer graphene on Cu(111) by C₆₀ supersonic molecular beam epitaxy. RSC Advances, 2016, 6, 37982-37993.	1.7	31
100	Gas adsorption and dynamics in Pillared Graphene Frameworks. Microporous and Mesoporous Materials, 2018, 257, 222-231.	2.2	31
101	Engineered Spider Silk Proteins for Biomimetic Spinning of Fibers with Toughness Equal to Dragline Silks. Advanced Functional Materials, 2022, 32, .	7.8	31
102	Graphene-Based Bionic Composites with Multifunctional and Repairing Properties. ACS Applied Materials & Interfaces, 2016, 8, 7607-7612.	4.0	30
103	Surface Phenomena Enhancing the Antibacterial and Osteogenic Ability of Nanocrystalline Hydroxyapatite, Activated by Multiple-Ion Doping. ACS Biomaterials Science and Engineering, 2019, 5, 5947-5959.	2.6	30
104	Orderâ€“Disorder Transition in Kesterite Cu₂ZnSnS₄: Thermopower Enhancement via Electronic Band Structure Modification. Journal of Physical Chemistry C, 2020, 124, 7091-7096.	1.5	30
105	Hierarchical auxetic and isotropic porous medium with extremely negative Poissonâ€™s ratio. Extreme Mechanics Letters, 2021, 48, 101405.	2.0	30
106	Solving the Controversy on the Wetting Transparency of Graphene. Scientific Reports, 2015, 5, 15526.	1.6	29
107	Gas Adsorption and Separation in Realistic and Idealized Frameworks of Organic Pillared Graphene: A Comparative Study. Journal of Physical Chemistry C, 2015, 119, 1980-1987.	1.5	29
108	Grafting carbon nanotubes onto carbon fibres doubles their effective strength and the toughness of the composite. Composites Science and Technology, 2018, 166, 140-149.	3.8	29

#	Article	IF	Citations
109	Easy, Scalable, Robust, Micropatterned Silk Fibroin Cell Substrates. Advanced Materials Interfaces, 2019, 6, 1801822.	1.9	29
110	A generalization of the Coulombâ€™s friction law: from graphene to macroscale. Meccanica, 2013, 48, 1845-1851.	1.2	28
111	Mechanics of plant fruit hooks. Journal of the Royal Society Interface, 2013, 10, 20120913.	1.5	28
112	Dry acellular oesophageal matrix prepared by supercritical carbon dioxide. Journal of Supercritical Fluids, 2016, 115, 33-41.	1.6	28
113	Tribological characteristics of few-layer graphene over Ni grain and interface boundaries. Nanoscale, 2016, 8, 6646-6658.	2.8	28
114	Staggered Fibrils and Damageable Interfaces Lead Concurrently and Independently to Hysteretic Energy Absorption and Inhomogeneous Strain Fields in Cyclically Loaded Antler Bone. ACS Biomaterials Science and Engineering, 2017, 3, 2779-2787.	2.6	28
115	Evidence of the Most Stretchable Egg Sac Silk Stalk, of the European Spider of the Year Meta menardi. PLoS ONE, 2012, 7, e30500.	1.1	28
116	Friction of rough surfaces on ice: Experiments and modeling. Wear, 2016, 368-369, 258-266.	1.5	27
117	Ultrasensitive Characterization of Mechanical Oscillations and Plasmon Energy Shift in Gold Nanorods. ACS Nano, 2016, 10, 2251-2258.	7.3	27
118	Hybrid metamaterials combining pentamode lattices and phononic plates. Applied Physics Letters, 2018, 113, .	1.5	27
119	Effect of the Order-Disorder Transition on the Seebeck Coefficient of Nanostructured Thermoelectric Cu2ZnSnS4. Nanomaterials, 2019, 9, 762.	1.9	27
120	A design strategy to match the band gap of periodic and aperiodic metamaterials. Scientific Reports, 2020, 10, 16403.	1.6	27
121	Thermal loading in multi-layered and/or functionally graded materials: Residual stress field, delamination, fatigue and related size effects. International Journal of Solids and Structures, 2006, 43, 828-841.	1.3	26
122	Graphene-Based Resonant Sensors for Detection of Ultra-Fine Nanoparticles: Molecular Dynamics and Nonlocal Elasticity Investigations. Nano, 2015, 10, 1550024.	0.5	26
123	Geometry and Self-stress of Single-Wall Carbon Nanotubes and Graphene via a Discrete Model Based on a 2nd-Generation REBO Potential. Journal of Elasticity, 2016, 125, 1-37.	0.9	26
124	Proof of concept of a frequency-preserving and time-invariant metamaterial-based nonlinear acoustic diode. Scientific Reports, 2019, 9, 9560.	1.6	26
125	Self-organized and self-propelled aero-GaN with dual hydrophilic-hydrophobic behaviour. Nano Energy, 2019, 56, 759-769.	8.2	26
126	Tyrosine residues mediate supercontraction in biomimetic spider silk. Communications Materials, 2021, 2, .	2.9	26

#	Article	IF	Citations
127	The â€œEgg of Columbusâ€•for Making the World's Toughest Fibres. PLoS ONE, 2014, 9, e93079.	1.1	25
128	Mechanics of fragmentation of crocodile skin and other thin films. Scientific Reports, 2014, 4, 4966.	1.6	25
129	The multiple V-shaped double peeling of elastic thin films from elastic soft substrates. Journal of the Mechanics and Physics of Solids, 2018, 113, 56-64.	2.3	25
130	Evolution of aerial spider webs coincided with repeated structural optimization of silk anchorages. Evolution; International Journal of Organic Evolution, 2019, 73, 2122-2134.	1.1	25
131	VelcroÂ® nonlinear mechanics. Applied Physics Letters, 2007, 90, 121918.	1.5	24
132	A Hierarchical Lattice Spring Model to Simulate the Mechanics of 2-D Materials-Based Composites. Frontiers in Materials, 2015, 2, .	1.2	24
133	Imaging and mechanical characterization of different junctions in spider orb webs. Scientific Reports, 2019, 9, 5776.	1.6	24
134	Superhydrophobic Polystyrene by Direct Copy of a Lotus Leaf. BioNanoScience, 2011, 1, 136-143.	1.5	23
135	Bioinspired Nanocomposites: Ordered 2D Materials Within a 3D Lattice. Advanced Functional Materials, 2016, 26, 5569-5575.	7.8	23
136	Serpentine locomotion through elastic energy release. Journal of the Royal Society Interface, 2017, 14, 20170055.	1.5	23
137	A soft robot structure with limbless resonant, stick and slip locomotion. Smart Materials and Structures, 2019, 28, 104005.	1.8	23
138	A CONSTITUTIVE MODEL FOR BOTH LOW AND HIGH STRAIN NONLINEARITIES IN HIGHLY FILLED ELASTOMERS AND IMPLEMENTATION WITH USER-DEFINED MATERIAL SUBROUTINES IN ABAQUS. Rubber Chemistry and Technology, 2019, 92, 653-686.	0.6	23
139	Dissipative Dynamics of Polymer Phononic Materials. Advanced Functional Materials, 2021, 31, 2103424.	7.8	23
140	Mechanics of hierarchical materials. International Journal of Fracture, 2008, 150, 221-226.	1.1	22
141	Constitutive behavior of pressurized carbon nanoscrolls. International Journal of Fracture, 2011, 171, 163-168.	1.1	22
142	A 2-D model for friction of complex anisotropic surfaces. Journal of the Mechanics and Physics of Solids, 2018, 112, 50-65.	2.3	22
143	Breaking the Nanoparticle Loadingâ€“Dispersion Dichotomy in Polymer Nanocomposites with the Art of Croissant-Making. ACS Nano, 2018, 12, 9040-9050.	7.3	22
144	Secondary electron emission and yield spectra of metals from Monte Carlo simulations and experiments. Journal of Physics Condensed Matter, 2019, 31, 055901.	0.7	22

#	Article	IF	Citations
145	Phenomenological approach to mechanical damage growth analysis. Physical Review E, 2008, 78, 046103.	0.8	21
146	Mimicking water stridersâ€™ legs superhydrophobicity and buoyancy with cabbage leaves and nanotube carpets. Journal of Materials Research, 2013, 28, 976-983.	1.2	21
147	Fermentation based carbon nanotube multifunctional bionic composites. Scientific Reports, 2016, 6, 27031.	1.6	21
148	Monte Carlo simulations of measured electron energy-loss spectra of diamond and graphite: Role of dielectric-response models. Carbon, 2017, 118, 299-309.	5.4	21
149	Multilayer stag beetle elytra perform better under external loading via non-symmetric bending properties. Journal of the Royal Society Interface, 2018, 15, 20180427.	1.5	21
150	Spider (Linothele megatheloides) and silkworm (Bombyx mori) silks: Comparative physical and biological evaluation. Materials Science and Engineering C, 2020, 107, 110197.	3.8	21
151	Micromechanics of liquid-phase exfoliation of a layered 2D material: A hydrodynamic peeling model. Journal of the Mechanics and Physics of Solids, 2020, 134, 103764.	2.3	21
152	Vertically-Aligned Functionalized Silicon Micropillars for 3D Culture of Human Pluripotent Stem Cell-Derived Cortical Progenitors. Cells, 2020, 9, 88.	1.8	21
153	Properties of Biomimetic Artificial Spider Silk Fibers Tuned by PostSpin Bath Incubation. Molecules, 2020, 25, 3248.	1.7	21
154	Compliant threads maximize spider silk connection strength and toughness. Journal of the Royal Society Interface, 2014, 11, 20140561.	1.5	20
155	Lobachevsky crystallography made real through carbon pseudospheres. Journal of Physics Condensed Matter, 2016, 28, 13LT01.	0.7	20
156	Tightening slip knots in raw and degummed silk to increase toughness without losing strength. Scientific Reports, 2016, 6, 18222.	1.6	20
157	Bone matrix development in steroid-induced osteoporosis is associated with a consistently reduced fibrillar stiffness linked to altered bone mineral quality. Acta Biomaterialia, 2018, 76, 295-307.	4.1	20
158	A combined experimental/numerical study on the scaling of impact strength and toughness in composite laminates for ballistic applications. Composites Part B: Engineering, 2020, 195, 108090.	5.9	20
159	Effect of Surface Grooves on the Static Friction of an Elastic Slider. Tribology Letters, 2015, 58, 1.	1.2	19
160	Experimental Observation of a Large Low-Frequency Band Gap in a Polymer Waveguide. Frontiers in Materials, 2018, 5, .	1.2	19
161	The Impact of Shear and Elongational Forces on Structural Formation of Polyacrylonitrile/Carbon Nanotubes Composite Fibers during Wet Spinning Process. Materials, 2019, 12, 2797.	1.3	19
162	Effect of mechanical stimulation on the degradation of poly(lactic acid) scaffolds with different designed structures. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 96, 324-333.	1.5	19

#	Article	IF	Citations
163	Nanostructured kesterite (Cu2ZnSnS4) for applications in thermoelectric devices. Powder Diffraction, 2019, 34, S42-S47.	0.4	19
164	Strong and Tough Silk for Resilient Attachment Discs: The Mechanical Properties of Piriform Silk in the Spider Cupiennius salei (Keyserling, 1877). Frontiers in Materials, 2020, 7, .	1.2	19
165	Band gap enhancement in periodic frames using hierarchical structures. International Journal of Solids and Structures, 2021, 216, 68-82.	1.3	19
166	An analytical approach for fracture and fatigue in functionally graded materials. International Journal of Fracture, 2006, 141, 535-547.	1.1	18
167	Superductile, Wavy Silica Nanostructures Inspired by Diatom Algae. Advanced Engineering Materials, 2011, 13, B405.	1.6	18
168	Hierarchical multiple peeling simulations. RSC Advances, 2014, 4, 25447-25452.	1.7	18
169	Numerical implementation of multiple peeling theory and its application to spider web anchorages. Interface Focus, 2015, 5, 20140051.	1.5	18
170	Nanoscale friction of graphene oxide over glass-fibre and polystyrene. Composites Part B: Engineering, 2018, 148, 272-280.	5.9	18
171	Structural, electronic and mechanical properties of all-sp2 carbon allotropes with density lower than graphene. Carbon, 2020, 159, 512-526.	5.4	18
172	A Bio-inspired Multifunctionalized Silk Fibroin. ACS Biomaterials Science and Engineering, 2021, 7, 507-516.	2.6	18
173	Towards the Artsutanov's dream of the space elevator: The ultimate design of a 35GPa strong tether thanks to graphene. Acta Astronautica, 2013, 82, 221-224.	1.7	17
174	Self-Healing of Hierarchical Materials. Langmuir, 2014, 30, 1123-1133.	1.6	17
175	Slip knots and unfastening topologies enhance toughness without reducing strength of silk fibroin fibres. Interface Focus, 2016, 6, 20150060.	1.5	17
176	Combining Living Microorganisms with Regenerated Silk Provides Nanofibril-Based Thin Films with Heat-Responsive Wrinkled States for Smart Food Packaging. Nanomaterials, 2018, 8, 518.	1.9	17
177	Modeling and simulation of the impact behavior of soft polymeric-foam-based back protectors for winter sports. Journal of Science and Medicine in Sport, 2019, 22, S65-S70.	0.6	17
178	Cutting mechanics of wood by beetle larval mandibles. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 112, 104027.	1.5	17
179	Strengthening of Wood-like Materials via Densification and Nanoparticle Intercalation. Nanomaterials, 2020, 10, 478.	1.9	17
180	Improving rubber concrete strength and toughness by plasmaâ€induced endâ€ofâ€life tire rubber surface modification. Plasma Processes and Polymers, 2021, 18, 2100081.	1.6	17

#	Article	IF	Citations
181	Origin of a Simultaneous Suppression of Thermal Conductivity and Increase of Electrical Conductivity and Seebeck Coefficient in Disordered Cubic Cu ₂ ZnSnS ₄. Physical Review Applied, 2020, 14, .	1.5	17
182	Optimal Angles for Maximal Adhesion in Living Tokay Geckos. Journal of Adhesion, 2012, 88, 820-830.	1.8	16
183	Computational analysis of metallic nanowire-elastomer nanocomposite based strain sensors. AIP Advances, 2015, 5, 117233.	0.6	16
184	Micromechanical model for protein materials: From macromolecules to macroscopic fibers. Physical Review E, 2017, 96, 042407.	0.8	16
185	Approximating gecko setae via direct laser lithography. Smart Materials and Structures, 2018, 27, 075009.	1.8	16
186	A study on plant root apex morphology as a model for soft robots moving in soil. PLoS ONE, 2018, 13, e0197411.	1.1	16
187	Effect of the pyrolysis atmosphere on the mechanical properties of polymerâ€derived SiOC and SiCN. Journal of the American Ceramic Society, 2020, 103, 6519-6530.	1.9	16
188	Biofunctional Silk Kirigami With Engineered Properties. ACS Applied Materials & Interfaces, 2020, 12, 12436-12444.	4.0	16
189	How spiders hunt heavy prey: the tangle web as a pulley and spider's lifting mechanics observed and quantified in the laboratory. Journal of the Royal Society Interface, 2021, 18, 20200907.	1.5	16
190	Graphene Confers Ultralow Friction on Nanogear Cogs. Small, 2021, 17, 2104487.	5.2	16
191	Artificial and natural silk materials have high mechanical property variability regardless of sample size. Scientific Reports, 2022, 12, 3507.	1.6	16
192	Size-scale and slenderness influence on the compressive strain-softening behaviour of concrete. Fatigue and Fracture of Engineering Materials and Structures, 2001, 24, 441-450.	1.7	15
193	Elastomechanical model of tumor invasion. Applied Physics Letters, 2006, 89, 233901.	1.5	15
194	Nanoscale Weibull Statistics for Nanofibers and Nanotubes. Journal of Aerospace Engineering, 2007, 20, 97-101.	0.8	15
195	Normal Adhesive Force-Displacement Curves of Living Geckos. Journal of Adhesion, 2011, 87, 1059-1072.	1.8	15
196	How graphene flexes and stretches under concomitant bending couples and tractions. Meccanica, 2017, 52, 1601-1624.	1.2	15
197	The influence of substrate roughness, patterning, curvature, and compliance in peeling problems. Bioinspiration and Biomimetics, 2018, 13, 026004.	1.5	15
198	Effect of rehabilitation exercise durations on the dynamic bone repair process by coupling polymer scaffold degradation and bone formation. Biomechanics and Modeling in Mechanobiology, 2018, 17, 763-775.	1.4	15

#	Article	IF	Citations
199	Bionicomposites. Nanoscale, 2019, 11, 3102-3111.	2.8	15
200	An experimental-numerical study of the adhesive static and dynamic friction of micro-patterned soft polymer surfaces. Materials and Design, 2019, 181, 107930.	3.3	15
201	Optimized production of a highâ€performance hybrid biomaterial: biomineralized spider silk for bone tissue engineering. Journal of Applied Polymer Science, 2020, 137, 48739.	1.3	15
202	Thermoelectric properties of CZTS thin films: effect of Cuâ€“Zn disorder. Physical Chemistry Chemical Physics, 2021, 23, 13148-13158.	1.3	15
203	Fabrication of ordered silicon nanopillars and nanowires by selfâ€assembly and metalâ€assisted etching. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1412-1416.	0.8	14
204	The effect of ageing on the mechanical properties of the silk of the bridge spider Larinioides cornutus (Clerck, 1757). Scientific Reports, 2016, 6, 24699.	1.6	14
205	Anisotropic Approach for Simulating Electron Transport in Layered Materials: Computational and Experimental Study of Highly Oriented Pyrolitic Graphite. Journal of Physical Chemistry C, 2018, 122, 10159-10166.	1.5	14
206	Synergistic icephobic behaviour of swollen nitrile butadiene rubber graphene and/or carbon nanotube composites. Composites Part B: Engineering, 2019, 166, 352-360.	5.9	14
207	Mechanical Properties and Weibull Scaling Laws of Unknown Spider Silks. Molecules, 2020, 25, 2938.	1.7	14
208	Mechanobiology predicts raft formations triggered by ligand-receptor activity across the cell membrane. Journal of the Mechanics and Physics of Solids, 2020, 141, 103974.	2.3	14
209	Failure strength of brittle materials containing nanovoids. Physical Review B, 2007, 75, .	1.1	13
210	A mixed approach for studying size effects and connecting interactions of planar nano structures as resonant mass sensors. Microsystem Technologies, 2015, 21, 2375-2386.	1.2	13
211	Cave spiders choose optimal environmental factors with respect to the generated entropy when laying their cocoon. Scientific Reports, 2015, 5, 7611.	1.6	13
212	Hierarchical Spring-Block Model for Multiscale Friction Problems. ACS Biomaterials Science and Engineering, 2017, 3, 2845-2852.	2.6	13
213	Small-on-Large Fractional Derivativeâ€“Based Single-Cell Model Incorporating Cytoskeleton Prestretch. Journal of Engineering Mechanics - ASCE, 2017, 143, .	1.6	13
214	Sensing up to 40â€‰atm Using Pressureâ€Sensitive Aeroâ€GaN. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900012.	1.2	13
215	A theoretical-numerical model for the peeling of elastic membranes. Journal of the Mechanics and Physics of Solids, 2020, 136, 103733.	2.3	13
216	Exploring event horizons and Hawking radiation through deformed graphene membranes. 2D Materials, 2020, 7, 041006.	2.0	13

#	Article	IF	Citations
217	The role of hairs in the adhesion of octopus suckers: a hierarchical peeling approach. Bioinspiration and Biomimetics, 2020, 15, 035006.	1.5	13
218	Scale-effects on mean and standard deviation of the mechanical properties of condensed matter: an energy-based unified approach. International Journal of Fracture, 2004, 128, 253-261.	1.1	12
219	Numerical simulations demonstrate that the double tapering of the spatualae of lizards and insects maximize both detachment resistance and stability. International Journal of Fracture, 2011, 171, 169-175.	1.1	12
220	Tunable Mechanical Behavior of Carbon Nanoscroll Crystals Under Uniaxial Lateral Compression. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	12
221	Mechanics of trichocyte alpha-keratin fibers: Experiment, theory, and simulation. Journal of Materials Research, 2015, 30, 26-35.	1.2	12
222	Knotted synthetic polymer or carbon nanotube microfibres with enhanced toughness, up to 1400 J/g. Carbon, 2016, 102, 116-125.	5.4	12
223	A mechanical system for tensile testing of supported films at the nanoscale. Nanotechnology, 2018, 29, 395707.	1.3	12
224	Supercritical CO₂ for the drying and microbial inactivation of appleâ€™s slices. Drying Technology, 2021, 39, 259-267.	1.7	12
225	Optimization of spider web-inspired phononic crystals to achieve tailored dispersion for diverse objectives. Materials and Design, 2021, 209, 109980.	3.3	12
226	Vibrational calling signals improve the efficacy of pheromone traps to capture the brown marmorated stink bug. Journal of Pest Science, 2023, 96, 587-597.	1.9	12
227	Towards a periodic table for the nanomechanical properties of the elements. International Journal of Solids and Structures, 2006, 43, 5647-5657.	1.3	11
228	Living Tokay Geckos Display Adhesion Times Following Weibull Statistics. Journal of Adhesion, 2008, 84, 947-960.	1.8	11
229	Microorganism Nutrition Processes as a General Route for the Preparation of Bionic Nanocomposites Based on Intractable Polymers. ACS Applied Materials & Interfaces, 2016, 8, 22714-22720.	4.0	11
230	Tuning friction with composite hierarchical surfaces. Tribology International, 2017, 115, 261-267.	3.0	11
231	Laser-Based Texturing of Graphene to Locally Tune Electrical Potential and Surface Chemistry. ACS Omega, 2018, 3, 17000-17009.	1.6	11
232	Investigation of charges-driven interactions between graphene and different SiO2 surfaces. Carbon, 2019, 148, 336-343.	5.4	11
233	A model for hierarchical anisotropic friction, adhesion and wear. Tribology International, 2020, 152, 106549.	3.0	11
234	Folding and Fracture of Singleâ€Crystal Graphene Grown on a Cu(111) Foil. Advanced Materials, 2022, 34, e2110509.	11.1	11

#	Article	IF	Citations
235	Selfâ€catalytic etching of silicon: from nanowires to regular mesopores. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1250-1254.	0.8	10
236	Design of a bent beam electrothermal actuator for in situ tensile testing of ceramic nanostructures. Journal of the European Ceramic Society, 2014, 34, 2767-2773.	2.8	10
237	A computational model for large deformations of composites with a 2D soft matrix and 1D anticracks. International Journal of Solids and Structures, 2015, 77, 1-14.	1.3	10
238	Deformation of nanotubes in peeling contact with flat substrate: An in situ electron microscopy nanomechanical study. Journal of Applied Physics, 2016, 119, 154305.	1.1	10
239	Computational modeling of the mechanics of hierarchical materials. MRS Bulletin, 2016, 41, 694-699.	1.7	10
240	Atomistic evaluation of the stress concentration factor of graphene sheets having circular holes. Physica E: Low-Dimensional Systems and Nanostructures, 2017, 93, 318-323.	1.3	10
241	A Plant Bioreactor for the Synthesis of Carbon Nanotube Bionic Nanocomposites. Frontiers in Bioengineering and Biotechnology, 2020, 8, 560349.	2.0	10
242	Generalized multiple peeling theory uploading hyperelasticity and pre-stress. Extreme Mechanics Letters, 2021, 42, 101085.	2.0	10
243	Adhesion of spider cribellate silk enhanced in high humidity by mechanical plasticization of the underlying fiber. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 114, 104200.	1.5	10
244	Unveiling a new shear stress transfer mechanism in composites with helically wound hierarchicalÂfibres. International Journal of Mechanical Sciences, 2021, 192, 106135.	3.6	10
245	Electronic excitation spectra of cerium oxides: from ab initio dielectric response functions to Monte Carlo electron transport simulations. Physical Chemistry Chemical Physics, 2021, 23, 19173-19187.	1.3	10
246	Comparing Modern and Classical Perspectives on Spider Silks and Webs. Perspectives on Science, 2021, 29, 133-156.	0.3	10
247	Fractal coupled theory of drilling and wear. International Journal of Fracture, 2005, 131, 131-142.	1.1	9
248	A simplified hardening cohesive zone model for bondline thickness dependence on adhesive joints. International Journal of Fracture, 2015, 194, 37-44.	1.1	9
249	Synthesis of Highly Oriented Graphite Films with a Low Wrinkle Density and Near-Millimeter-Scale Lateral Grains. Chemistry of Materials, 2020, 32, 3134-3143.	3.2	9
250	Efficient Mechanical Stress Transfer in Multilayer Graphene with a Ladder-like Architecture. ACS Applied Materials & Interfaces, 2021, 13, 4473-4484.	4.0	9
251	Strength, stability and size effects in the brittle behaviour of bonded joints under torsion: theory and experimental assessment. Fatigue and Fracture of Engineering Materials and Structures, 2002, 25, 55-62.	1.7	8
252	Towards in situ determination of 3D strain and reorientation in the interpenetrating nanofibre networks of cuticle. Nanoscale, 2017, 9, 11249-11260.	2.8	8

#	Article	IF	Citations
253	On the injectability of free-standing magnetic nanofilms. Biomedical Microdevices, 2017, 19, 51.	1.4	8
254	Air Trapping Mechanism in Artificial Salvinia-Like Micro-Hairs Fabricated via Direct Laser Lithography. Micromachines, 2017, 8, 366.	1.4	8
255	Silkworm silk fibers vs PEEK reinforced rubber luminescent strain gauge and stretchable composites. Composites Science and Technology, 2018, 156, 254-261.	3.8	8
256	A comparison between Monte Carlo method and the numerical solution of the Ambartsumian-Chandrasekhar equations to unravel the dielectric response of metals. Computational Materials Science, 2020, 173, 109420.	1.4	8
257	Mechanical characterization and induced crystallization in nanocomposites of thermoplastics and carbon nanotubes. Npj Computational Materials, 2020, 6, .	3.5	8
258	Mechanics of snake biting: Experiments and modelling. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 112, 104020.	1.5	8
259	Injectable Scaffold-Systems for the Regeneration of Spinal Cord: Advances of the Past Decade. ACS Biomaterials Science and Engineering, 2021, 7, 983-999.	2.6	8
260	Design of ideal vibrational signals for stinkbug male attraction through vibrotaxis experiments. Pest Management Science, 2021, 77, 5498-5508.	1.7	8
261	Tidy dataset of the experimental design of the optimization of the alkali degumming process of Bombyx mori silk. Data in Brief, 2021, 38, 107294.	0.5	8
262	A statistical analogy between collapse of solids and death of living organisms: Proposal for a â€˜law of lifeâ€™. Medical Hypotheses, 2007, 69, 441-447.	0.8	7
263	An analytical hierarchical model explaining the robustness and flaw-tolerance of the interlocking barb-barbule structure of bird feathers. Europhysics Letters, 2016, 116, 24001.	0.7	7
264	Non-linear double-peeling: Experimental vs. theoretical predictions. Journal of Adhesion, 2018, 94, 46-57.	1.8	7
265	Preservation over time of dried acellular esophageal matrix. Biomedical Physics and Engineering Express, 2018, 4, 065021.	0.6	7
266	Emergence of the interplay between hierarchy and contact splitting in biological adhesion highlighted through a hierarchical shear lag model. Soft Matter, 2018, 14, 5509-5518.	1.2	7
267	Atomistic modelling of the hypervelocity dynamics of shock-compressed graphite and impacted graphene armours. Computational Materials Science, 2019, 170, 109152.	1.4	7
268	Free-Standing Graphene Oxide and Carbon Nanotube Hybrid Papers with Enhanced Electrical and Mechanical Performance and Their Synergy in Polymer Laminates. International Journal of Molecular Sciences, 2020, 21, 8585.	1.8	7
269	Highly Deformable, Ultrathin Large-Area Poly(methyl methacrylate) Films. ACS Omega, 2021, 6, 8308-8312.	1.6	7
270	Simulation of interacting elastic sheets in shear flow: Insights into buckling, sliding, and reassembly of graphene nanosheets in sheared liquids. Physics of Fluids, 2022, 34, .	1.6	7

#	Article	IF	Citations
271	On the role of elasticity in focal adhesion stability within the passive regime. International Journal of Non-Linear Mechanics, 2022, 146, 104157.	1.4	7
272	Tunneling Current-Voltage Controls, Oscillations, and Instability of Nanotube- and Nanowire-Based Nanoelectromechanical Systems. Glass Physics and Chemistry, 2005, 31, 535-544.	0.2	6
273	Fatigue of self-healing hierarchical soft nanomaterials: The case study of the tendon in sportsmen. Journal of Materials Research, 2015, 30, 2-9.	1.2	6
274	Homogeneity of ball milled ceramic powders: Effect of jar shape and milling conditions. Data in Brief, 2017, 10, 186-191.	0.5	6
275	Spider weight dragging and lifting mechanics. Meccanica, 2018, 53, 1105-1114.	1.2	6
276	A comparative study of the mechanical properties of a dinosaur and crocodile fossil teeth. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 97, 365-374.	1.5	6
277	Dry Adhesion of Artificial Gecko Setae Fabricated via Direct Laser Lithography. Lecture Notes in Computer Science, 2017, , 631-636.	1.0	6
278	A New Concept for Smart Drug Delivery: Adhesion Induced Nanovector ImplosionÂ§. Open Medicinal Chemistry Journal, 2008, 2, 62-65.	0.9	6
279	Understanding anharmonic effects on hydrogen desorption characteristics of Mg_nH_{2n} nanoclusters by ab initio trained deep neural network. Nanoscale, 2022, 14, 5589-5599.	2.8	6
280	Correlation between slip precursors and topological length scales at the onset of frictional sliding. International Journal of Solids and Structures, 2022, 243, 111525.	1.3	6
281	Effect of vibrational mating disruption on flight activity and oviposition to control the grapevine pest, Scaphoideus titanus. Arthropod Structure and Development, 2022, 69, 101173.	0.8	6
282	On Linear Elastic Fragmentation Mechanics Under Hydrostatic Compression. International Journal of Fracture, 2008, 149, 113-117.	1.1	5
283	A novel combined experimental and multiscale theoretical approach to unravel the structure of SiC/SiO_x core/shell nanowires for their optimal design. Nanoscale, 2018, 10, 13449-13461.	2.8	5
284	Matrix-induced pre-strain and mineralization-dependent interfibrillar shear transfer enable 3D fibrillar deformation in a biogenic armour. Acta Biomaterialia, 2019, 100, 18-28.	4.1	5
285	Plant root penetration and growth as a mechanical inclusion problem. International Journal of Non-Linear Mechanics, 2020, 120, 103344.	1.4	5
286	Orientation Distribution Dependence of Piezoresistivity of Metal Nanowire-Polymer Composite. Multiscale Science and Engineering, 2020, 2, 54-62.	0.9	5
287	Evolutionary Algorithm Optimization of Staggered Biological or Biomimetic Composites Using the Random Fuse Model. Physical Review Applied, 2020, 13, .	1.5	5
288	Extreme deformations of the cantilever Euler Elastica under transverse aerodynamic load. Extreme Mechanics Letters, 2021, 42, 101110.	2.0	5

#	Article	IF	Citations
289	A lesson from earthquake engineering for selectively damaging cancer cell structures. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 119, 104533.	1.5	5
290	Random fuse model in the presence of self-healing. New Journal of Physics, 2020, 22, 033005.	1.2	5
291	An Image-Analysis-Based Method for the Prediction of Recombinant Protein Fiber Tensile Strength. Materials, 2022, 15, 708.	1.3	5
292	Multifunctional roles of hairs and spines in old man of the Andes cactus: Droplet distant coalescence and mechanical strength. Physics of Fluids, 2022, 34, .	1.6	5
293	Extension of the de Saint Venant and Kirchhoff theories to functionally graded materials. Strength, Fracture and Complexity, 2009, 5, 53-62.	0.2	4
294	A Parametrical Analysis on the Elastic Anisotropy of Woven Hierarchical Tissues. Advanced Engineering Materials, 2011, 13, B377.	1.6	4
295	Evidence of friction reduction in laterally graded materials. Beilstein Journal of Nanotechnology, 2018, 9, 2443-2456.	1.5	4
296	Atomistic simulation study on the crack growth stability of graphene under uniaxial tension and indentation. Meccanica, 2019, 54, 1915-1926.	1.2	4
297	Load Sensor Instability and Optimization of MEMS-based Tensile Testing Devices. Frontiers in Materials, 2019, 6, .	1.2	4
298	The commemoration of Leonardo da Vinci. Meccanica, 2019, 54, 2317-2324.	1.2	4
299	The rotation toughening mechanism of barbâ€“barbule joint in the barb delamination of feathers. Acta Mechanica, 2020, 231, 1173-1186.	1.1	4
300	Prey Capturing Dynamics and Nanomechanically Graded Cutting Apparatus of Dragonfly Nymph. Materials, 2021, 14, 559.	1.3	4
301	A coarse-grained mechanical model for folding and unfolding of tropoelastin with possible mutations. Acta Biomaterialia, 2021, 134, 477-489.	4.1	4
302	Experimental and Numerical Study of the Effect of Surface Patterning on the Frictional Properties of Polymer Surfaces. Journal of Tribology, 2022, 144, .	1.0	4
303	Impact mechanics of multilayer composite armors: Analytical modeling, FEM numerical simulation, and ballistic experiments. Composite Structures, 2022, 297, 115916.	3.1	4
304	Disinfectorâ€Assisted Low Temperature Reduced Graphene Oxideâ€Protein Surgical Dressing for the Postoperative Photothermal Treatment of Melanoma. Advanced Functional Materials, 2022, 32, .	7.8	4
305	On the Impossibility of Separating Nanotubes in a Bundle by Longitudinal Tension. Journal of Adhesion, 2008, 84, 439-444.	1.8	3
306	In silico tensile tests and design of hierarchical graphene fibres and composites. Physica Status Solidi (B): Basic Research, 2013, 250, 1492-1495.	0.7	3

#	Article	IF	Citations
307	Nonlinear mechanics of a ring structure subjected to multi-pairs of evenly distributed equal radial forces. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 942-953.	1.5	3
308	Ice-regenerated flame retardant and robust film of Bombyx mori silk fibroin and POSS nano-cages. RSC Advances, 2018, 8, 9063-9069.	1.7	3
309	Editorial: Advances in Mechanical Metamaterials. Frontiers in Materials, 2018, 5, .	1.2	3
310	Mechanical properties of Chamelea gallina shells at different latitudesï»¿. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 94, 155-163.	1.5	3
311	Competition between delamination and tearing in multiple peeling problems. Journal of the Royal Society Interface, 2019, 16, 20190388.	1.5	3
312	An insight into the toughness modulus enhancement of high-performance knotted microfibers through the correspondence analysis. Engineering Research Express, 2021, 3, 025010.	0.8	3
313	Controlling Movement at Nanoscale: Curvature Driven Mechanotaxis. Small, 2021, 17, 2100909.	5.2	3
314	Self-Propelled Aero-GaN Based Liquid Marbles Exhibiting Pulsed Rotation on the Water Surface. Materials, 2021, 14, 5086.	1.3	3
315	Prey Impact Localization Enabled by Material and Structural Interaction in Spider Orb Webs. Advanced Theory and Simulations, 0, , 2100282.	1.3	3
316	A new concept for superior energy dissipation in hierarchical materials and structures. International Journal of Engineering Science, 2022, 176, 103673.	2.7	3
317	Understanding the mechanics of complex topology of the 3D printed Anthill architecture. Oxford Open Materials Science, 2022, 2, .	0.5	3
318	Subharmonic generation in physical systems: An interaction-box approach. Wave Motion, 2006, 43, 689-699.	1.0	2
319	Strength of hierarchical materials. Microsystem Technologies, 2009, 15, 27-31.	1.2	2
320	Observations of shear adhesive force and friction of Blatta orientalis on different surfaces. Meccanica, 2013, 48, 1863-1873.	1.2	2
321	Graphene as Barrier to Prevent Volume Increment of Air Bubbles over Silicone Polymer in Aqueous Environment. Langmuir, 2017, 33, 12865-12872.	1.6	2
322	Fractal and spider web-inspired labyrinthine acoustic metamaterials. , 2017, , .		2
323	Stag Beetle Elytra: Localized Shape Retention and Puncture/Wear Resistance. Insects, 2019, 10, 438.	1.0	2
324	Supramolecular Structure and Mechanical Properties of Wet-Spun Polyacrylonitrile/Carbon Nanotube Composite Fibers Influenced by Stretching Forces. Frontiers in Materials, 2020, 7, .	1.2	2

#	Article	IF	Citations
325	Doubling the Mechanical Properties of Spider Silk by C60 Supersonic Molecular Beam Epitaxy. Frontiers in Materials, 2020, 7, .	1.2	2
326	Order Parameter from the Seebeck Coefficient in Thermoelectric Kesterite Cu2ZnSnS4. Minerals, Metals and Materials Series, 2021, , 527-539.	0.3	2
327	Mechanotropism of single cells adhering to elastic substrates subject to exogenous forces. Journal of the Mechanics and Physics of Solids, 2021, 153, 104475.	2.3	2
328	Modeling and Simulation of Bio-inspired Nanoarmors. , 2019, , 391-419.		2
329	Tuning of frictional properties in torsional contact by means of disk grading. Friction, 2022, 10, 787-802.	3.4	2
330	Three Dimensional Printing of Multiscale Carbon Fiber-Reinforced Polymer Composites Containing Graphene or Carbon Nanotubes. Nanomaterials, 2022, 12, 2064.	1.9	2
331	Molecular dynamics: Tunable Water Channels with Carbon Nanoscrolls (Small 6/2010). Small, 2010, 6, .	5.2	1
332	A. Konstantinidis, P. Cornetti, N. Pugno and E.C. Aifantis, Application of Gradient Theory and Quantized Fracture Mechanics in Snow Avalanches, J. Mech. Behav. Mater. 19, 39â€“47, 2009. Journal of the Mechanical Behavior of Materials, 2012, 20, 107-109.	0.7	1
333	Micro- or nano-mechanics. Meccanica, 2013, 48, 1817-1818.	1.2	1
334	The unacknowledged risk of Himalayan avalanches triggering. International Journal of Fracture, 2014, 187, 277-283.	1.1	1
335	Hierarchical bio-inspired dissipative metamaterials for low frequency attenuation. , 2017, , .		1
336	Tunable extremely wide low-frequency band gaps in accordion-like metamaterials. , 2018, , .		1
337	Modeling and Simulation of Bio-Inspired Nanoarmors. , 2018, , 1-29.		1
338	Bionic Superfibers. , 2019, , 431-443.		1
339	A numerical-experimental approach towards picomechanics and picotribology: the case study of defective carbon nanotubes bundles. Journal Physics D: Applied Physics, 2019, 52, 255305.	1.3	1
340	Editorial: Bioinspired wet and dry adhesion. Bioinspiration and Biomimetics, 2020, 15, 040401.	1.5	1
341	Air-encapsulating elastic mechanism of submerged Taraxacum blowballs. Materials Today Bio, 2021, 9, 100095.	2.6	1
342	Robust substrate anchorages of silk lines with extensible nano-fibres. Soft Matter, 2021, 17, 7903-7913.	1.2	1

#	Article	IF	Citations
343	Modeling and Simulation of Bio-Inspired Nanoarmors. , 2018, , 1-29.		1
344	Stapled fascial suture: ex vivo modeling and clinical implications. Surgical Endoscopy and Other Interventional Techniques, 2022, , .	1.3	1
345	Macroscopic invisible cables. Microsystem Technologies, 2009, 15, 175-180.	1.2	0
346	Nanoscale fracture. International Journal of Fracture, 2011, 171, 151-153.	1.1	0
347	Back Cover: Fabrication of ordered silicon nanopillars and nanowires by self-assembly and metal-assisted etching (Phys. Status Solidi A 6/2011). Physica Status Solidi (A) Applications and Materials Science, 2011, 208, n/a-n/a.	0.8	0
348	Nanoindentation and nanoscratch of hybrid metallicâ€“organic framework material. Materials Science and Technology, 2012, 28, 1156-1160.	0.8	0
349	Dissipative elastic metamaterials. , 2017, , .		0
350	Mechanical modeling of the bandgap response of tensegrity metamaterials. AIP Conference Proceedings, 2019, , .	0.3	0
351	Frontiers in Materials Has the Ambition of Taking Up the â€œGrand Challengeâ€•of Following Leonardo da Vinci's Legacy. Frontiers in Materials, 2019, 6, .	1.2	0
352	How bio-inspiration enhances the potential of phononic crystals and metamaterials. , 2021, , .		0
353	10.1063/1.3302284.1. , 2010, , .		0
354	Hierarchical Large-Scale Elastic Metamaterials as an Innovative Passive Isolation Strategy for Seismic Wave Mitigation. , 2020, , .		0
355	A 3D Griffith peeling model toÂunify and generalize single and double peeling theories. Meccanica, 2022, 57, 1125-1138.	1.2	0