Anand Jagota

List of Publications by Year
in descending order

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131	11,340	53751 45	28275 105
papers	citations	h-index	g-index

133	133	133	9654
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	DNA-assisted dispersion and separation of carbon nanotubes. Nature Materials, 2003, 2, 338-342.	13.3	2,573
2	Structure-Based Carbon Nanotube Sorting by Sequence-Dependent DNA Assembly. Science, 2003, 302, 1545-1548.	6.0	1,547
3	DNA sequence motifs for structure-specific recognition and separation of carbon nanotubes. Nature, 2009, 460, 250-253.	13.7	996
4	Peptides with selective affinity for carbon nanotubes. Nature Materials, 2003, 2, 196-200.	13.3	520
5	Long range interactions in nanoscale science. Reviews of Modern Physics, 2010, 82, 1887-1944.	16.4	359
6	Elastocapillarity: Surface Tension and the Mechanics of Soft Solids. Annual Review of Condensed Matter Physics, 2017, 8, 99-118.	5.2	247
7	Biologically inspired crack trapping for enhanced adhesion. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 10786-10791.	3.3	234
8	Mechanically tunable dry adhesive from wrinkled elastomers. Soft Matter, 2008, 4, 1830.	1.2	207
9	Mechanics of Adhesion Through a Fibrillar Microstructure. Integrative and Comparative Biology, 2002, 42, 1140-1145.	0.9	200
10	Understanding the Nature of the DNA-Assisted Separation of Single-Walled Carbon Nanotubes Using Fluorescence and Raman Spectroscopy. Nano Letters, 2004, 4, 543-550.	4.5	191
11	Peeling Single-Stranded DNA from Graphite Surface to Determine Oligonucleotide Binding Energy by Force Spectroscopy. Nano Letters, 2008, 8, 4365-4372.	4.5	176
12	Crack Growth and Damage in Constrained Sintering Films. Journal of the American Ceramic Society, 1993, 76, 2475-2485.	1.9	156
13	Analysis of Glass/Polyvinyl Butyral Laminates Subjected to Uniform Pressure. Journal of Engineering Mechanics - ASCE, 1999, 125, 435-442.	1.6	150
14	Effect of Stamp Deformation on the Quality of Microcontact Printing:Â Theory and Experiment. Langmuir, 2004, 20, 6430-6438.	1.6	141
15	Theory of Structure-Based Carbon Nanotube Separations by Ion-Exchange Chromatography of DNA/CNT Hybrids. Journal of Physical Chemistry B, 2005, 109, 2559-2566.	1.2	135
16	Fracture of Glass/Poly(vinyl butyral) (ButaciteÂ®) Laminates in Biaxial Flexure. Journal of the American Ceramic Society, 1999, 82, 1761-1770.	1.9	116
17	Molecular-Basis of Single-Walled Carbon Nanotube Recognition by Single-Stranded DNA. Nano Letters, 2012, 12, 1464-1469.	4.5	115
18	Structure of Homopolymer DNAâ˜’CNT Hybrids. Journal of Physical Chemistry C, 2007, 111, 17835-17845.	1.5	109

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19	Intrinsically reversible superglues via shape adaptation inspired by snail epiphragm. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13774-13779.	3.3	102
20	Simulation of the Viscous Sintering of Two Particles. Journal of the American Ceramic Society, 1990, 73, 173-177.	1.9	90
21	Recognition Ability of DNA for Carbon Nanotubes Correlates with Their Binding Affinity. Langmuir, 2011, 27, 8282-8293.	1.6	90
22	Solid surface tension measured by a liquid drop under a solid film. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10541-10545.	3.3	82
23	Controlled Two-Dimensional Pattern of Spontaneously Aligned Carbon Nanotubes. Nano Letters, 2006, 6, 55-60.	4.5	81
24	Isotropic Constitutive Model for Sintering Particle Packings. Journal of the American Ceramic Society, 1990, 73, 2266-2273.	1.9	79
25	Collapse of single-walled carbon nanotubes. Journal of Applied Physics, 2005, 97, 074310.	1.1	76
26	Sequence-Specific Self-Stitching Motif of Short Single-Stranded DNA on a Single-Walled Carbon Nanotube. Journal of the American Chemical Society, 2011, 133, 13545-13550.	6.6	76
27	Adhesion enhancement in a biomimetic fibrillar interface. Acta Biomaterialia, 2005, 1, 367-375.	4.1	75
28	Effects of surface tension on the adhesive contact of a rigid sphere to a compliant substrate. Soft Matter, 2014, 10, 4625-4632.	1.2	69
29	Banning carbon nanotubes would be scientifically unjustified and damaging to innovation. Nature Nanotechnology, 2020, 15, 164-166.	15.6	69
30	Adhesion Selectivity Using Rippled Surfaces. Advanced Functional Materials, 2011, 21, 547-555.	7.8	68
31	Detection of ovarian cancer via the spectral fingerprinting of quantum-defect-modified carbon nanotubes in serum by machine learning. Nature Biomedical Engineering, 2022, 6, 267-275.	11.6	65
32	Lithographically Cut Single-Walled Carbon Nanotubes:â€‰ Controlling Length Distribution and Introducing End-Group Functionality. Nano Letters, 2003, 3, 1007-1012.	4.5	63
33	Surface-tension-induced flattening of a nearly plane elastic solid. Physical Review E, 2012, 85, 051602.	0.8	60
34	Indentation of a rigid sphere into an elastic substrate with surface tension and adhesion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140727.	1.0	60
35	Viscosities and Sintering Rates of Composite Packings of Spheres. Journal of the American Ceramic Society, 1995, 78, 521-528.	1.9	57
36	Effect of backing layer thickness on adhesion of single-level elastomer fiber arrays. Applied Physics Letters, 2007, 91, .	1.5	57

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37	Interaction of Single-Stranded DNA with Curved Carbon Nanotube Is Much Stronger Than with Flat Graphite. Journal of the American Chemical Society, 2014, 136, 12947-12957.	6.6	54
38	Strongly enhanced static friction using a film-terminated fibrillar interface. Soft Matter, 2008, 4, 618.	1.2	53
39	Viscosities and Sintering Rates of a Two-Dimensional Granular Composite. Journal of the American Ceramic Society, 1993, 76, 3123-3135.	1.9	52
40	Adhesion between single-walled carbon nanotubes. Journal of Applied Physics, 2005, 97, 074304.	1.1	52
41	Flattening of a patterned compliant solid by surface stress. Soft Matter, 2014, 10, 4084-4090.	1.2	52
42	DNA Conjugated SWCNTs Enter Endothelial Cells via Rac1 Mediated Macropinocytosis. Nano Letters, 2012, 12, 1826-1830.	4.5	49
43	Effect of Rate on Adhesion and Static Friction of a Film-Terminated Fibrillar Interface. Langmuir, 2009, 25, 2765-2771.	1.6	48
44	Structural Characteristics of Oligomeric DNA Strands Adsorbed onto Single-Walled Carbon Nanotubes. Journal of Physical Chemistry B, 2013, 117, 132-140.	1.2	47
45	Binding between DNA and Carbon Nanotubes Strongly Depends upon Sequence and Chirality. Langmuir, 2014, 30, 3176-3183.	1.6	47
46	Active Switching of Adhesion in a Film-Terminated Fibrillar Structure. Langmuir, 2010, 26, 15464-15471.	1.6	46
47	Quantifying Interactions between DNA Oligomers and Graphite Surface Using Single Molecule Force Spectroscopy. Journal of Physical Chemistry C, 2012, 116, 13896-13903.	1.5	46
48	Adhesion, friction, and compliance of bio-mimetic and bio-inspired structured interfaces. Materials Science and Engineering Reports, 2011, 72, 253-253.	14.8	44
49	Gravity and Surface Tension Effects on the Shape Change of Soft Materials. Langmuir, 2013, 29, 8665-8674.	1.6	44
50	A perception-based nanosensor platform to detect cancer biomarkers. Science Advances, 2021, 7, eabj0852.	4.7	43
51	Deformation near a liquid contact line on an elastic substrate. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140085.	1.0	42
52	Adhesive contact between a rippled elastic surface and a rigid spherical indenter: from partial to full contact. Soft Matter, 2011, 7, 10728.	1.2	41
53	Interaction of the Complexin Accessory Helix with the C-Terminus of the SNARE Complex: Molecular-Dynamics Model of the Fusion Clamp. Biophysical Journal, 2013, 105, 679-690.	0.2	41
54	Preload-responsive adhesion: effects of aspect ratio, tip shape and alignment. Journal of the Royal Society Interface, 2013, 10, 20130171.	1.5	38

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55	Fast, strong, and reversible adhesives with dynamic covalent bonds for potential use in wound dressing. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	37
56	Design of bio-inspired fibrillar interfaces for contact and adhesion â€" theory and experiments. Journal of Adhesion Science and Technology, 2007, 21, 1259-1280.	1.4	35
57	Measurement of Electrostatic Properties of DNA-Carbon Nanotube Hybrids by Capillary Electrophoresis. Journal of Physical Chemistry C, 2009, 113, 13616-13621.	1.5	35
58	Adhesion of a Fibrillar Interface on Wet and Rough Surfaces. Journal of Adhesion, 2010, 86, 39-61.	1.8	32
59	Planar equilibrium shapes of a liquid drop on a membrane. Soft Matter, 2015, 11, 8960-8967.	1.2	31
60	Learning to predict single-wall carbon nanotube-recognition DNA sequences. Npj Computational Materials, 2019, 5, .	3.5	31
61	Model-Independent Extraction of Adhesion Energy from Indentation Experiments. Langmuir, 2008, 24, 9401-9409.	1.6	29
62	Biomechanical characterization of TIM proteinâ€"mediated Ebola virusâ€"host cell adhesion. Scientific Reports, 2019, 9, 267.	1.6	29
63	Thermal Fluctuations Limit the Adhesive Strength of Compliant Solids. Journal of Adhesion, 2006, 82, 671-696.	1.8	28
64	Molecular Simulation of DNA Î²-Sheet and Î²-Barrel Structures on Graphite and Carbon Nanotubes. Journal of Physical Chemistry C, 2010, 114, 13267-13276.	1.5	28
65	Vibrational Technique for Stress Measurement in Films: I, Ideal Membrane Behavior. Journal of the American Ceramic Society, 1994, 77, 625-635.	1.9	26
66	DNA Base Dimers Are Stabilized by Hydrogen-Bonding Interactions Including Non-Watsonâ€"Crick Pairing Near Graphite Surfaces. Journal of Physical Chemistry B, 2012, 116, 12088-12094.	1.2	26
67	Simulation of the Viscous Sintering of Coated Particles. Journal of the American Ceramic Society, 1994, 77, 2237-2239.	1.9	25
68	Adhesive contact of a rigid circular cylinder to a soft elastic substrate â€" the role of surface tension. Soft Matter, 2015, 11, 3844-3851.	1.2	24
69	Mechanism of Sliding Friction on a Film-Terminated Fibrillar Interface. Langmuir, 2009, 25, 2772-2780.	1.6	23
70	Compliance of a microfibril subjected to shear and normal loads. Journal of the Royal Society Interface, 2008, 5, 1087-1097.	1.5	20
71	Adhesion of Microchannel-Based Complementary Surfaces. Langmuir, 2012, 28, 4213-4222.	1.6	20
72	Droplets on an elastic membrane: Configurational energy balance and modified Young equation. Journal of the Mechanics and Physics of Solids, 2020, 138, 103902.	2.3	20

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73	Discharge During Detachment of Micro-Structured PDMS Sheds Light on the Role of Electrostatics in Adhesion. Journal of Adhesion, 2012, 88, 589-607.	1.8	19
74	Pathway-Dependent Structures of DNA-Wrapped Carbon Nanotubes: Direct Sonication vs Surfactant/DNA Exchange. Journal of Physical Chemistry C, 2020, 124, 9045-9055.	1.5	19
75	A two-dimensional model for enhanced adhesion of film-terminated fibrillar interfaces by crack trapping. Journal of Applied Physics, 2008, 104, .	1.1	18
76	Effect of large deformation and surface stiffening on the transmission of a line load on a neo-Hookean half space. Soft Matter, 2018, 14, 1847-1855.	1.2	18
77	Lubricated steady sliding of a rigid sphere on a soft elastic substrate: hydrodynamic friction in the Hertz limit. Soft Matter, 2020, 16, 2760-2773.	1.2	17
78	Coarse-Grained Model of SNARE-Mediated Docking. Biophysical Journal, 2015, 108, 2258-2269.	0.2	16
79	Surface tension measurement from the indentation of clamped thin films. Soft Matter, 2016, 12, 5121-5126.	1.2	16
80	Effect of surface tension on the adhesion between a rigid flat punch and a semi-infinite neo-Hookean half-space. Extreme Mechanics Letters, 2016, 9, 310-316.	2.0	15
81	Adhesive contact driven by electrostatic forces. Journal of Applied Physics, 2006, 99, 054906.	1.1	13
82	Structural Stability and Binding Strength of a Designed Peptideâ€“Carbon Nanotube Hybrid. Journal of Physical Chemistry C, 2013, 117, 26255-26261.	1.5	13
83	Strongly Modulated Friction of a Film-Terminated Ridge-Channel Structure. Scientific Reports, 2016, 6, 26867.	1.6	13
84	Spontaneous Droplet Motion on a Periodically Compliant Substrate. Langmuir, 2017, 33, 4942-4947.	1.6	13
85	Quantification of DNA/SWCNT Solvation Differences by Aqueous Two-Phase Separation. Langmuir, 2018, 34, 1834-1843.	1.6	13
86	A surface with stress, extensional elasticity, and bending stiffness. Soft Matter, 2019, 15, 3817-3827.	1.2	13
87	Modeling of surface mechanical behaviors of soft elastic solids: theory and examples. Soft Matter, 2020, 16, 6875-6889.	1.2	13
88	Surface Tension and the Strain-Dependent Topography of Soft Solids. Physical Review Letters, 2021, 127, 208001.	2.9	13
89	Adhesion energy can regulate vesicle fusion and stabilize partially fused states. Journal of the Royal Society Interface, 2012, 9, 1555-1567.	1.5	12
90	Interaction of Droplets Separated by an Elastic Film. Langmuir, 2017, 33, 75-81.	1.6	12

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91	Energetic Basis of Single-Wall Carbon Nanotube Enantiomer Recognition by Single-Stranded DNA. Journal of Physical Chemistry C, 2017, 121, 17479-17487.	1.5	12
92	Enhancement of elastohydrodynamic friction by elastic hysteresis in a periodic structure. Soft Matter, 2020, 16, 1627-1635.	1.2	12
93	Sequence-dependent force response during peeling of single-stranded DNA from graphite. Physical Review E, 2010, 81, 021805.	0.8	11
94	Lubricated Sliding of a Rigid Cylinder on a Viscoelastic Half Space. Tribology Letters, 2022, 70, 1.	1.2	11
95	Brownian Dynamics Simulation of Peeling a Strongly-Adsorbed Polymer Molecule from a Frictionless Substrate. Langmuir, 2013, 29, 1435-1445.	1.6	10
96	Frictional auto-roughening of a surface with spatially varying stiffness. Soft Matter, 2014, 10, 2169-2177.	1.2	10
97	Effects of strain-dependent surface stress on the adhesive contact of a rigid sphere to a compliant substrate. Soft Matter, 2019, 15, 2223-2231.	1.2	10
98	Machine Learning-Guided Systematic Search of DNA Sequences for Sorting Carbon Nanotubes. ACS Nano, 2022, 16, 4705-4713.	7.3	10
99	Effect of fibril arrangement on crack trapping in a filmâ€terminated fibrillar interface. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 2368-2384.	2.4	9
100	A closed form large deformation solution of plate bending with surface effects. Soft Matter, 2017, 13, 386-393.	1.2	9
101	Adhesion and Friction Enhancement of Film-Terminated Structures against Rough Surfaces. Tribology Letters, 2017, 65, 1.	1.2	8
102	Indentation versus Rolling: Dependence of Adhesion on Contact Geometry for Biomimetic Structures. Langmuir, 2018, 34, 3827-3837.	1.6	8
103	Friction Force During Lubricated Steady Sliding of a Rigid Cylinder on a Viscoelastic Substrate. Tribology Letters, 2021, 69, 1.	1.2	8
104	Adhesion selectivity by electrostatic complementarity. I. One-dimensional stripes of charge. Journal of Applied Physics, 2011, 110, 054902.	1.1	7
105	Structure and Energetics of Dislocations at Microâ€Structured Complementary Interfaces Govern Adhesion. Advanced Functional Materials, 2013, 23, 3453-3462.	7.8	7
106	Effect of surface tension on the relaxation of a viscoelastic halfâ€space perturbed by a point load. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 274-280.	2.4	7
107	How surface stress transforms surface profiles and adhesion of rough elastic bodies. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200477.	1.0	7
108	Adhesion selectivity by electrostatic complementarity. II. Two-dimensional analysis. Journal of Applied Physics, 2011, 110, 054903.	1.1	6

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109	Adhesion of Screen-Printed Silver Metallization to Crystalline Silicon Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1141-1151.	1.5	6
110	Coarse-Grained Model for Zippering of SNARE from Partially Assembled States. Journal of Physical Chemistry B, 2018, 122, 10834-10840.	1.2	6
111	Crack propagation pattern and trapping mechanism of rolling a rigid cylinder on a periodically structured surface. Extreme Mechanics Letters, 2019, 29, 100475.	2.0	6
112	On track with nanotubes. Nature Nanotechnology, 2014, 9, 10-11.	15.6	5
113	Increased Sliding Friction of a Lubricated Soft Solid Using an Embedded Structure. Tribology Letters, 2022, 70, 1.	1.2	5
114	In-plane forceâ€“extension response of a polymer confined to a surface. European Polymer Journal, 2014, 51, 151-158.	2.6	4
115	Enhancement of Friction against a Rough Surface by a Ridgeâ€“Channel Surface Microstructure. Langmuir, 2015, 31, 7581-7589.	1.6	4
116	Role reversal: Liquid â€œCheeriosâ€•on a solid sense each other. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7294-7295.	3.3	4
117	Effect of surface bending and stress on the transmission of line force to an elastic substrate. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20170775.	1.0	4
118	Adhesive contact between cylindrical (Ebola) and spherical (SARS-CoV-2) viral particles and a cell membrane. Mechanics of Soft Materials, 2020, 2, 11.	0.4	4
119	Meso-scale dislocations and friction of shape-complementary soft interfaces. Journal of the Royal Society Interface, 2021, 18, 20200940.	1.5	4
120	Respiratory droplet resuspension near surfaces: Modeling and analysis. Journal of Applied Physics, 2021, 130, 024702.	1.1	4
121	Biomimetic Coreâ€“Shell Fibril for Enhanced Adhesion. Langmuir, 2008, 24, 6182-6188.	1.6	3
122	Microstructures: Structure and Energetics of Dislocations at Micro-Structured Complementary Interfaces Govern Adhesion (Adv. Funct. Mater. 27/2013). Advanced Functional Materials, 2013, 23, 3452-3452.	7.8	3
123	Wetting of a partially immersed compliant rod. Journal of Applied Physics, 2016, 120, 195301.	1.1	3
124	The effect of surface bending and surface stress on the transmission of a vertical line force in soft materials. Extreme Mechanics Letters, 2018, 23, 9-16.	2.0	3
125	Lubricated soft normal elastic contact of a sphere: a new numerical method and experiment. Soft Matter, 2022, 18, 1219-1227.	1.2	3
126	Geometry of defects at shape-complementary soft interfaces. Extreme Mechanics Letters, 2016, 9, 74-83.	2.0	2

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127	A surface flattening method for characterizing the surface stress, drained Poisson's ratio and diffusivity of poroelastic gels. Soft Matter, 2021, 17, 7332-7340.	1.2	2
128	Adhesion Enhancement of a Gel-Elastomer Interface by Shape Complementarity. Biologically-inspired Systems, 2017, , 291-301.	0.4	1
129	Length of mucin-like domains enhances cell-Ebola virus adhesion by increasing binding probability. Biophysical Journal, 2021, 120, 781-790.	0.2	1
130	Energetics of cracks and defects in soft materials: The role of surface stress. Extreme Mechanics Letters, 2021, 48, 101424.	2.0	1
131	Enhancement of hydrodynamic friction by periodic variation of contact stiffness. Extreme Mechanics Letters, 2022, 54, 101735.	2.0	1