Alfred J Crosby

List of Publications by Year
in descending order

161	8,921	34076	46771
papers	citations	52	89
		h-index	g-index

164	164	164	8262
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Pressurized interfacial failure of soft adhesives. Soft Matter, 2022, 18, 755-761.	1.2	4
2	Phase-transforming metamaterial with magnetic interactions. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	22
3	Fracture of model end-linked networks. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	26
4	Dynamic recoil in metamaterials with nonlinear interactions. Journal of the Mechanics and Physics of Solids, 2022, 162, 104834.	2.3	4
5	Soft double-network polydimethylsiloxane: fast healing of fracture toughness. Journal of Materials Chemistry A, 2022, 10, 11667-11675.	5.2	10
6	Linking cavitation and fracture to molecular scale structural damage of model networks. Soft Matter, 2022, 18, 4220-4226.	1.2	5
7	Bond strength regime dictates stress relaxation behavior. Soft Matter, 2022, 18, 4937-4943.	1.2	5
8	Cavitation induced fracture of intact brain tissue. Biophysical Journal, 2022, 121, 2721-2729.	0.2	1
9	Flower Inspiration: Broadâ€Angle Structural Color through Tunable Hierarchical Wrinkles in Thin Film Multilayers. Advanced Functional Materials, 2021, 31, 2006256.	7.8	34
10	Localized characterization of brain tissue mechanical properties by needle induced cavitation rheology and volume controlled cavity expansion. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 114, 104168.	1.5	12
11	Mechanics of adhesives under annular confinement: internal pressure, force, and interfacial area. Soft Matter, 2021, 17, 5540-5547.	1.2	2
12	Deep indentation and puncture of a rigid cylinder inserted into a soft solid. Soft Matter, 2021, 17, 5574-5580.	1.2	9
13	Autonomous snapping and jumping polymer gels. Nature Materials, 2021, 20, 1695-1701.	13.3	103
14	Memristive Behavior of Mixed Oxide Nanocrystal Assemblies. ACS Applied Materials & Interfaces, 2021, 13, 21635-21644.	4.0	6
15	Load-bearing entanglements in polymer glasses. Science Advances, 2021, 7, eabg9763.	4.7	26
16	Seeded laser-induced cavitation for studying high-strain-rate irreversible deformation of soft materials. Soft Matter, 2020, 16, 9006-9013.	1.2	13
17	Programming Impulsive Deformation with Mechanical Metamaterials. Physical Review Letters, 2020, 125, 108002.	2.9	12
18	Lowâ€Voltage Reversible Electroadhesion of Ionoelastomer Junctions. Advanced Materials, 2020, 32, e2000600.	11.1	52

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19	Mechanical Properties of Ultrathin Polymer Nanocomposites. ACS Applied Polymer Materials, 2020, 2, 2220-2227.	2.0	22
20	Programmed Wrapping and Assembly of Droplets with Mesoscale Polymers. Advanced Functional Materials, 2020, 30, 2002704.	7.8	7
21	Control of Astrocyte Quiescence and Activation in a Synthetic Brain Hydrogel. Advanced Healthcare Materials, 2020, 9, e1901419.	3.9	51
22	Uniaxial stretching mechanics of cellular flexible metamaterials. Extreme Mechanics Letters, 2020, 35, 100637.	2.0	15
23	Micromechanical Properties of Microstructured Elastomeric Hydrogels. Macromolecular Bioscience, 2020, 20, 1900360.	2.1	10
24	Cavitation in soft matter. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 9157-9165.	3.3	86
25	Uniaxial Extension of Ultrathin Freestanding Polymer Films. ACS Macro Letters, 2019, 8, 1080-1085.	2.3	30
26	Residual strain effects in needle-induced cavitation. Soft Matter, 2019, 15, 7390-7397.	1.2	22
27	Tensile Properties of Ultrathin Bisphenol-A Polycarbonate Films. Macromolecules, 2019, 52, 7489-7494.	2.2	18
28	Smart Droplets: Simultaneous â€œCleanâ€andâ€Repairâ€•of Surfaces Using Smart Droplets (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Ove	7.8	1
29	Controlled processing of polymer nanoribbons: Enabling microhelix transformations. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 1270-1278.	2.4	4
30	Macroscopic Geometry-Dominated Orientation of Symmetric Microwrinkle Patterns. ACS Applied Materials & Interfaces, 2019, 11, 23741-23749.	4.0	18
31	Effect of Polymer Volume Fraction on Fracture Initiation in Soft Gels at Small Length Scales. ACS Macro Letters, 2019, 8, 492-498.	2.3	20
32	The effect of size-scale on the kinematics of elastic energy release. Soft Matter, 2019, 15, 9579-9586.	1.2	16
33	Simultaneous â€œCleanâ€andâ€Repairâ€•of Surfaces Using Smart Droplets. Advanced Functional Materials, 2019, 29, 1805219.	7.8	3
34	Mesoscale Block Copolymers. Advanced Materials, 2018, 30, e1706118.	11.1	11
35	How Ligands Affect Resistive Switching in Solution-Processed HfO₂ Nanoparticle Assemblies. ACS Applied Materials & Interfaces, 2018, 10, 4824-4830.	4.0	23
36	Confinement Effect on Strain Localizations in Glassy Polymer Films. Macromolecules, 2018, 51, 3647-3653.	2.2	45

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37	Micromechanical characterization of soft, biopolymeric hydrogels: stiffness, resilience, and failure. Soft Matter, 2018, 14, 3478-3489.	1.2	30
38	The principles of cascading power limits in small, fast biological and engineered systems. Science, 2018, 360, .	6.0	187
39	Controlled evaporative selfâ€assembly of polymer nanoribbons using oscillating capillary bridges. Journal of Polymer Science, Part B: Polymer Physics, 2018, 56, 1545-1551.	2.4	7
40	Synthesis of Phosphonic Acid Ligands for Nanocrystal Surface Functionalization and Solution Processed Memristors. Chemistry of Materials, 2018, 30, 8034-8039.	3.2	30
41	Cross-platform mechanical characterization of lung tissue. PLoS ONE, 2018, 13, e0204765.	1.1	85
42	Effect of far-field compliance on local failure dynamics of soft solids. Extreme Mechanics Letters, 2018, 24, 14-20.	2.0	12
43	Achieving high aspect ratio wrinkles by modifying material network stress. Soft Matter, 2017, 13, 4142-4147.	1.2	8
44	Transferable Memristive Nanoribbons Comprising Solution-Processed Strontium Titanate Nanocubes. ACS Applied Materials & Interfaces, 2017, 9, 10847-10854.	4.0	10
45	High strength reversible adhesive closures. Journal of Polymer Science, Part B: Polymer Physics, 2017, 55, 1783-1790.	2.4	4
46	Indentation of a stretched elastomer. Journal of the Mechanics and Physics of Solids, 2017, 107, 145-159.	2.3	17
47	Hyperbranched polymer structures via flexible blade flow coating. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 32-37.	2.4	10
48	The functional significance of morphological changes in the dentitions of early mammals. Journal of the Royal Society Interface, 2016, 13, 20160713.	1.5	12
49	Functional droplets that recognize, collect, and transport debris on surfaces. Science Advances, 2016, 2, e1601462.	4.7	11
50	Mechanical Restoration of Damaged Polymer Films by â€œRepairâ€andâ€Goâ€• Advanced Functional Materials, 2016, 26, 857-863.	7.8	15
51	Elastic cavitation and fracture via injection. Soft Matter, 2016, 12, 2557-2566.	1.2	59
52	Extreme positive allometry of animal adhesive pads and the size limits of adhesion-based climbing. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1297-1302.	3.3	92
53	Rolling wrinkles on elastic substrates. Extreme Mechanics Letters, 2016, 6, 23-30.	2.0	7
54	Deformation and shape of flexible, microscale helices in viscous flow. Physical Review E, 2015, 92, 011004.	0.8	17

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55	Geckos as Springs: Mechanics Explain Across-Species Scaling of Adhesion. PLoS ONE, 2015, 10, e0134604.	1.1	30
56	Optimizing Adhesive Design by Understanding Compliance. ACS Applied Materials & Interfaces, 2015, 7, 27771-27781.	4.0	24
57	Mechanics of intact bone marrow. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 50, 299-307.	1.5	149
58	Puncture mechanics of soft solids. Soft Matter, 2015, 11, 4723-4730.	1.2	54
59	Rubrene crystal field-effect mobility modulation via conducting channel wrinkling. Nature Communications, 2015, 6, 6948.	5.8	107
60	Smooth Muscle Stiffness Sensitivity is Driven by Soluble and Insoluble ECM Chemistry. Cellular and Molecular Bioengineering, 2015, 8, 333-348.	1.0	9
61	Extremely tough composites from fabric reinforced polyampholyte hydrogels. Materials Horizons, 2015, 2, 584-591.	6.4	108
62	Directly Measuring the Complete Stressâ€“Strain Response of Ultrathin Polymer Films. Macromolecules, 2015, 48, 6534-6540.	2.2	101
63	Tunable Elastic Modulus of Nanoparticle Monolayer Films by Hostâ€“Guest Chemistry. Advanced Materials, 2014, 26, 5056-5061.	11.1	22
64	High Capacity, Easy Release Adhesives From Renewable Materials. Advanced Materials, 2014, 26, 3405-3409.	11.1	51
65	Patterning Nanoparticles into Rings by â€œ2-D Pickering Emulsionsâ€• ACS Applied Materials & Interfaces, 2014, 6, 4850-4855.	4.0	5
66	Creating Geckoâ€Like Adhesives for â€œReal Worldâ€•Surfaces. Advanced Materials, 2014, 26, 4345-4351.	11.1	112
67	High Aspect Ratio Wrinkles via Substrate Prestretch. Advanced Materials, 2014, 26, 5626-5631.	11.1	79
68	Highly Conductive Ribbons Prepared by Stickâ€“Slip Assembly of Organosoluble Gold Nanoparticles. ACS Nano, 2014, 8, 1173-1179.	7.3	35
69	Soft-solid deformation mechanics at the tip of an embedded needle. Soft Matter, 2014, 10, 3679.	1.2	28
70	Material transfer controlled by elastomeric layer thickness. Materials Horizons, 2014, 1, 507.	6.4	17
71	Stretching of assembled nanoparticle helical springs. Physical Chemistry Chemical Physics, 2014, 16, 10261.	1.3	13
72	Stimuli-responsive buckling mechanics of polymer films. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 1441-1461.	2.4	98

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73	Wrinkling membranes with compliant boundaries. Soft Matter, 2014, 10, 1963-1968.	1.2	13
74	Enhancing Adhesion of Elastomeric Composites through Facile Patterning of Surface Discontinuities. ACS Applied Materials & Interfaces, 2014, 6, 6845-6850.	4.0	11
75	Characterization of Heterogeneous Polyacrylamide Hydrogels by Tracking of Single Quantum Dots. Macromolecules, 2014, 47, 741-749.	2.2	57
76	Macroscopic Nanoparticle Ribbons and Fabrics. Advanced Materials, 2013, 25, 1248-1253.	11.1	59
77	Buckling of an Adhesive Polymeric Micropillar. Journal of Adhesion, 2013, 89, 140-158.	1.8	25
78	Wrinkling of inhomogeneously strained thin polymer films. Soft Matter, 2013, 9, 43-47.	1.2	30
79	Curvature-controlled wrinkle morphologies. Soft Matter, 2013, 9, 3624.	1.2	67
80	Facile Colloidal Lithography on Rough and Nonâ€planar Surfaces for Asymmetric Patterning. Small, 2013, 9, 3037-3042.	5.2	9
81	Large Deformation and Adhesive Contact Studies of Axisymmetric Membranes. Langmuir, 2013, 29, 1407-1419.	1.6	18
82	Scaling Normal Adhesion Force Capacity with a Generalized Parameter. Langmuir, 2013, 29, 11022-11027.	1.6	55
83	Highly Stretchable Nanoparticle Helices Through Geometric Asymmetry and Surface Forces. Advanced Materials, 2013, 25, 6703-6708.	11.1	36
84	Cavitation Rheology as a Potential Method for In Vivo Assessment of Skin Biomechanics. Plastic and Reconstructive Surgery, 2013, 131, 303e-305e.	0.7	14
85	Direct Patterning of Engineered Ionic Gold Nanoparticles via Nanoimprint Lithography. Advanced Materials, 2012, 24, 6330-6334.	11.1	32
86	Enhanced Adhesion of Elastic Materials to Small-Scale Wrinkles. Langmuir, 2012, 28, 14899-14908.	1.6	78
87	Probing and repairing damaged surfaces with nanoparticle-containing microcapsules. Nature Nanotechnology, 2012, 7, 87-90.	15.6	56
88	Opportunities with Fabric Composites as Unique Flexible Substrates. ACS Applied Materials & Interfaces, 2012, 4, 6640-6645.	4.0	16
89	Cavity growth in a triblock copolymer polymer gel. Soft Matter, 2012, 8, 8204.	1.2	23
90	Synthetically Simple, Highly Resilient Hydrogels. Biomacromolecules, 2012, 13, 584-588.	2.6	128

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91	Wrinkling and strain localizations in polymer thin films. Soft Matter, 2012, 8, 9086.	1.2	107
92	Wrinkle morphologies with two distinct wavelengths. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 1225-1232.	2.4	20
93	Pattern Driven Stress Localization in Thin Diblock Copolymer Films. Macromolecules, 2012, 45, 4001-4006.	2.2	23
94	Mechanical properties of temperature sensitive microgel/polyacrylamide composite hydrogelsâ€"from soft to hard fillers. Soft Matter, 2012, 8, 4254.	1.2	57
95	Mechanical Properties of End-Linked PEG/PDMS Hydrogels. Macromolecules, 2012, 45, 6104-6110.	2.2	85
96	Designing Bioâ€Inspired Adhesives for Shear Loading: From Simple Structures to Complex Patterns. Advanced Functional Materials, 2012, 22, 4985-4992.	7.8	60
97	The Intrinsic Mechanical Properties of Rubrene Single Crystals. Advanced Materials, 2012, 24, 5548-5552.	11.1	50
98	Looking Beyond Fibrillar Features to Scale Geckoâ€Like Adhesion. Advanced Materials, 2012, 24, 1078-1083.	11.1	243
99	Biomimetics: Looking Beyond Fibrillar Features to Scale Gecko-Like Adhesion (Adv. Mater. 8/2012). Advanced Materials, 2012, 24, 994-994.	11.1	4
100	Cavitation rheology of the eye lens. Soft Matter, 2011, 7, 7827.	1.2	42
101	Mechanics of wrinkled surface adhesion. Soft Matter, 2011, 7, 5373.	1.2	58
102	Hole Nucleation and Growth in Free-Standing Polystyrene Ultrathin Films. Macromolecules, 2011, 44, 134-139.	2.2	11
103	Confinement Effects on Chain Entanglement in Free-Standing Polystyrene Ultrathin Films. Macromolecules, 2011, 44, 5436-5442.	2.2	36
104	Effect of stress state on wrinkle morphology. Soft Matter, 2011, 7, 4490.	1.2	141
105	Tailored Nanoparticles for Enhancing Polymer Adhesion. Macromolecules, 2011, 44, 5256-5261.	2.2	15
106	Blowing bubbles to study living material. Physics Today, 2011, 64, 62-63.	0.3	15
107	Adhesion of nonplanar wrinkled surfaces. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 179-185.	2.4	26
108	Selfâ€Wrinkling of UVâ€Cured Polymer Films. Advanced Materials, 2011, 23, 3441-3445.	11.1	126

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109	Solventâ€Responsive Surface via Wrinkling Instability. Advanced Materials, 2011, 23, 4188-4192.	11.1	182
110	Periodic patterns and energy states of buckled films on compliant substrates. Journal of the Mechanics and Physics of Solids, 2011, 59, 1094-1114.	2.3	274
111	Nanoparticle Stripes, Grids, and Ribbons Produced by Flow Coating. Advanced Materials, 2010, 22, 4600-4604.	11.1	105
112	Water cavitation of hydrogels. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 1423-1427.	2.4	37
113	Using Nanoparticle-Filled Microcapsules for Site-Specific Healing of Damaged Substrates: Creating a â€œRepair-and-Goâ€•System. ACS Nano, 2010, 4, 1115-1123.	7.3	52
114	Draping Films: A Wrinkle to Fold Transition. Physical Review Letters, 2010, 105, 038303.	2.9	111
115	Why should we care about buckling?. Soft Matter, 2010, 6, 5660.	1.2	19
116	Cavitation rheology of the vitreous: mechanical properties of biological tissue. Soft Matter, 2010, 6, 3632.	1.2	85
117	Contact-line mechanics for pattern control. Soft Matter, 2010, 6, 5789.	1.2	41
118	Friction of soft elastomeric wrinkled surfaces. Journal of Applied Physics, 2009, 106, .	1.1	68
119	Formation of Oriented, Suspended Fibers by Melting Free Standing Polystyrene Thin Films. Macromolecules, 2009, 42, 6716-6722.	2.2	8
120	Cavitation and fracture behavior of polyacrylamide hydrogels. Soft Matter, 2009, 5, 3963.	1.2	144
121	Surface wrinkling behavior of finite circular plates. Soft Matter, 2009, 5, 425-431.	1.2	95
122	Living microlens arrays. Cytoskeleton, 2008, 65, 762-767.	4.4	7
123	Surface Wrinkles for Smart Adhesion. Advanced Materials, 2008, 20, 711-716.	11.1	451
124	Photo-Cross-Linked PLA-PEO-PLA Hydrogels from Self-Assembled Physical Networks: Mechanical Properties and Influence of Assumed Constitutive Relationships. Biomacromolecules, 2008, 9, 2784-2791.	2.6	73
125	Fracture-induced alignment of surface wrinkles. Soft Matter, 2008, 4, 1805.	1.2	18
126	Crumpled surface structures. Soft Matter, 2008, 4, 82-85.	1.2	28

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127	Adaptive polymer particles. Applied Physics Letters, 2008, 93, .	1.5	46
128	WRINKLING POLYMERS FOR SURFACE STRUCTURE CONTROL AND FUNCTIONALITY. Series in Sof Condensed Matter, 2008, , 141-161.	0.1	0
129	Friction of soft elastomeric surfaces with a defect. Applied Physics Letters, 2007, 91, .	1.5	8
130	Adhesion of Patterned Reactive Interfaces. Journal of Adhesion, 2007, 83, 473-489.	1.8	25
131	Designing Model Systems for Enhanced Adhesion. MRS Bulletin, 2007, 32, 496-503.	1.7	72
132	Failure Mechanism of Glassy Polymerâ^'Nanoparticle Composites. Macromolecules, 2007, 40, 6406-6412.	2.2	6
133	Cavitation rheology for soft materials. Soft Matter, 2007, 3, 763.	1.2	151
134	Impact of Surface-Modified Nanoparticles on Glass Transition Temperature and Elastic Modulus of Polymer Thin Films. Macromolecules, 2007, 40, 7755-7757.	2.2	48
135	Polymer Nanocomposites: The â€œNanoâ€•Effect on Mechanical Properties. Polymer Reviews, 2007, 47, 217-229.	5.3	507
136	Snapping Surfaces. Advanced Materials, 2007, 19, 3589-3593.	11.1	195
137	Insight into the periodicity of Schallamach waves in soft material friction. Applied Physics Letters, 2006, 89, 261907.	1.5	57
138	Nanoparticle Alignment and Repulsion during Failure of Glassy Polymer Nanocomposites. Macromolecules, 2006, 39, 7392-7396.	2.2	108
139	Spontaneous formation of stable aligned wrinkling patterns. Soft Matter, 2006, 2, 324.	1.2	160
140	Fabricating Microlens Arrays by Surface Wrinkling. Advanced Materials, 2006, 18, 3238-3242.	11.1	325
141	Quantifying release in step-and-flash imprint lithography. Journal of Vacuum Science & Technology B, 2006, 24, 2716.	1.3	16
142	Controlling Adhesion with Surface Hole Patterns. Journal of Adhesion, 2006, 82, 311-329.	1.8	32
143	Combinatorial approach to the edge delamination test for thin film reliabilityâ€”adaptability and variability. Thin Solid Films, 2005, 476, 379-385.	0.8	15
144	A multilens measurement platform for high-throughput adhesion measurements. Measurement Science and Technology, 2005, 16, 81-89.	1.4	15

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145	Controlling Polymer Adhesion with â€œPancakesâ€• Langmuir, 2005, 21, 11738-11743.	1.6	158
146	Crazing in Glassy Block Copolymer Thin Films. Macromolecules, 2005, 38, 9711-9717.	2.2	23
147	High-Throughput Craze Studies in Gradient Thin Films Using Ductile Copper Grids. Macromolecules, 2004, 37, 9968-9974.	2.2	18
148	Combinatorial investigations of interfacial failure. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 883-891.	2.4	15
149	Image Analysis for High-Throughput Materials Science. , 2003, , 33-56.		2
150	Microindentation and Nanoindentation Studies of Aging in Pressure-Sensitive Adhesives. Macromolecules, 2001, 34, 2269-2276.	2.2	36
151	Deformation and failure modes of adhesively bonded elastic layers. Journal of Applied Physics, 2000, 88, 2956-2966.	1.1	206
152	Fingering Instabilities of Confined Elastic Layers in Tension. Physical Review Letters, 2000, 84, 3057-3060.	2.9	140
153	Study of the Surface Adhesion of Pressure-Sensitive Adhesives by Atomic Force Microscopy and Spherical Indenter Tests. Macromolecules, 2000, 33, 1878-1881.	2.2	59
154	Adhesion of Triblock Copolymer-Based Thermoreversible Gels and Pressure Sensitive Adhesives. Materials Research Society Symposia Proceedings, 2000, 629, 1.	0.1	1
155	Adhesive failure analysis of pressure-sensitive adhesives. Journal of Polymer Science, Part B: Polymer Physics, 1999, 37, 3455-3472.	2.4	122
156	Structural Development and Adhesion of Acrylic ABA Triblock Copolymer Gels. Macromolecules, 1999, 32, 7251-7262.	2.2	74
157	Adhesive failure analysis of pressure-sensitive adhesives. , 1999, 37, 3455.		1
158	Adhesive failure analysis of pressureâ€sensitive adhesives. Journal of Polymer Science, Part B: Polymer Physics, 1999, 37, 3455-3472.	2.4	2
159	Axisymmetric adhesion tests of soft materials. Macromolecular Chemistry and Physics, 1998, 199, 489-511.	1.1	175
160	Axisymmetric adhesion tests of soft materials. Macromolecular Chemistry and Physics, 1998, 199, 489-511.	1.1	6
161	Adhesion of Thermally Reversible Gels to Solid Surfaces. Langmuir, 1997, 13, 6101-6107.	1.6	49