Eric R Dufresne

List of Publications by Year
in descending order

125	12,683	28274	24982
papers	citations	55 h-index	109 g-index

134	134	134	14730
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A robust method for quantification of surface elasticity in soft solids. Journal of the Mechanics and Physics of Solids, 2022, 161, 104786.	4.8	6
2	Non-specific adhesive forces between filaments and membraneless organelles. Nature Physics, 2022, 18, 571-578.	16.7	41
3	Gradients in solid surface tension drive Marangoni-like motions in cell aggregates. Physical Review Fluids, 2022, 7, .	2.5	5
4	Putting the Squeeze on Phase Separation. Jacs Au, 2022, 2, 66-73.	7.9	31
5	Dynamics of spontaneous wrapping of microparticles by floppy lipid membranes. Physical Review Research, 2022, 4, .	3.6	7
6	Reply to the â€˜Comment on â€œSurface elastic constants of a soft solidâ€â€™ by E. Gutman, Soft Matter, 2022, 18, DOI: 10.1039/D1SM01412A. Soft Matter, 2022, 18, 4641-4642.	2.7	0
7	Surface tensiometry of phase separated protein and polymer droplets by the sessile drop method. Soft Matter, 2021, 17, 1655-1662.	2.7	32
8	Contact lines on stretched soft solids: modelling anisotropic surface stresses. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	2.1	6
9	Supramolecular gelation controlled by an iodine clock. Soft Matter, 2021, 17, 1189-1193.	2.7	12
10	Forming Anisotropic Crystal Composites: Assessing the Mechanical Translation of Gel Network Anisotropy to Calcite Crystal Form. Journal of the American Chemical Society, 2021, 143, 3439-3447.	13.7	19
11	Droplets Sit and Slide Anisotropically on Soft, Stretched Substrates. Physical Review Letters, 2021, 126, 158004.	7.8	17
12	Evolution of single gyroid photonic crystals in bird feathers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	26
13	Measuring Surface Tensions of Soft Solids with Huge Contact-Angle Hysteresis. Physical Review X, 2021, 11, .	8.9	8
14	Enhancing the Refractive Index of Polymers with a Plantâ€Based Pigment. Small, 2021, 17, e2103061.	10.0	13
15	Shape-Controlled Nanoparticles from a Low-Energy Nanoemulsion. Jacs Au, 2021, 1, 1975-1986.	7.9	16
16	Structural color from solid-state polymerization-induced phase separation. Soft Matter, 2021, 17, 5772-5779.	2.7	12
17	Micromirror Total Internal Reflection Microscopy for High-Performance Single Particle Tracking at Interfaces. ACS Photonics, 2021, 8, 3111-3118.	6.6	9
18	Sustained enzymatic activity and flow in crowded protein droplets. Nature Communications, 2021, 12, 6293.	12.8	41

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19	Surface Tension and the Strain-Dependent Topography of Soft Solids. Physical Review Letters, 2021, 127, 208001.	7.8	13
20	Supramolecular assembly by time-programmed acid autocatalysis. Molecular Systems Design and Engineering, 2020, 5, 445-448.	3.4	21
21	Transient supramolecular assembly of a functional perylene diimide controlled by a programmable pH cycle. Soft Matter, 2020, 16, 591-594.	2.7	23
22	Wrapping of Microparticles by Floppy Lipid Vesicles. Physical Review Letters, 2020, 125, 198102.	7.8	29
23	Viscoelastic and Poroelastic Relaxations of Soft Solid Surfaces. Physical Review Letters, 2020, 125, 238002.	7.8	21
24	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.	2.1	7
25	Designing refractive index fluids using the Kramersâ€“Kronig relations. Faraday Discussions, 2020, 223, 136-144.	3.2	19
26	Switchable adhesion of soft composites induced by a magnetic field. Soft Matter, 2020, 16, 5806-5811.	2.7	24
27	Small-scale demixing in confluent biological tissues. Soft Matter, 2020, 16, 3325-3337.	2.7	34
28	Extreme cavity expansion in soft solids: Damage without fracture. Science Advances, 2020, 6, eaaz0418.	10.3	45
29	Elastic stresses reverse Ostwald ripening. Soft Matter, 2020, 16, 5892-5897.	2.7	32
30	Elastic ripening and inhibition of liquidâ€“liquid phase separation. Nature Physics, 2020, 16, 422-425.	16.7	92
31	Temporal Control of Soft Materials with Chemical Clocks. Chimia, 2020, 74, 612-612.	0.6	4
32	Impact of in situ acid generation and iodine sequestration on the chlorite-iodide clock reaction. Chaos, 2019, 29, 071102.	2.5	9
33	Singular dynamics in the failure of soft adhesive contacts. Soft Matter, 2019, 15, 1327-1334.	2.7	19
34	Magnetically Addressable Shapeâ€Memory and Stiffening in a Composite Elastomer. Advanced Materials, 2019, 31, e1900561.	21.0	91
35	When Black and White make Green: the Surprising Interplay of Structure and Pigments. Chimia, 2019, 73, 47.	0.6	4
36	Non-invasive in vivo quantification of human skin tension lines. Acta Biomaterialia, 2019, 88, 141-148.	8.3	22

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37	Effects of strain-dependent surface stress on the adhesive contact of a rigid sphere to a compliant substrate. Soft Matter, 2019, 15, 2223-2231.	2.7	10
38	Liquid-Liquid Phase Separation in an Elastic Network. Physical Review X, 2018, 8, .	8.9	57
39	Surface elastic constants of a soft solid. Soft Matter, 2018, 14, 916-920.	2.7	44
40	Vinculin and the mechanical response of adherent fibroblasts to matrix deformation. Scientific Reports, 2018, 8, 17967.	3.3	14
41	Controlled formation of chitosan particles by a clock reaction. Soft Matter, 2018, 14, 6415-6418.	2.7	22
42	Maximum likelihood estimations of force and mobility from single short Brownian trajectories. Soft Matter, 2017, 13, 2174-2180.	2.7	6
43	Tracking particles with large displacements using energy minimization. Soft Matter, 2017, 13, 2201-2206.	2.7	13
44	Mechanical stability of particle-stabilized droplets under micropipette aspiration. Physical Review E, 2017, 95, 012805.	2.1	9
45	Vancomycin Reduces Cell Wall Stiffness and Slows Swim Speed of the Lyme Disease Bacterium. Biophysical Journal, 2017, 112, 746-754.	0.5	8
46	Elastocapillarity: Surface Tension and the Mechanics of Soft Solids. Annual Review of Condensed Matter Physics, 2017, 8, 99-118.	14.5	247
47	Direct measurement of strain-dependent solid surface stress. Nature Communications, 2017, 8, 555.	12.8	79
48	Strain-Dependent Solid Surface Stress and the Stiffness of Soft Contacts. Physical Review X, 2017, 7, .	8.9	6
49	E-cadherin integrates mechanotransduction and EGFR signaling to control junctional tissue polarization and tight junction positioning. Nature Communications, 2017, 8, 1250.	12.8	147
50	Local Arp2/3-dependent actin assembly modulates applied traction force during apCAM adhesion site maturation. Molecular Biology of the Cell, 2017, 28, 98-110.	2.1	8
51	Segregated Ice Growth in a Suspension of Colloidal Particles. Journal of Physical Chemistry B, 2016, 120, 3941-3949.	2.6	23
52	Long-range attraction of particles adhered to lipid vesicles. Physical Review E, 2016, 94, 012604.	2.1	21
53	Fluctuations and correlations of emission from random lasers. Physical Review A, 2016, 93, .	2.5	17
54	Large Deformations of a Soft Porous Material. Physical Review Applied, 2016, 5, .	3.8	111

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55	Domain morphology, boundaries, and topological defects in biophotonic gyroid nanostructures of butterfly wing scales. Science Advances, 2016, 2, e1600149.	10.3	29
56	Solid capillarity: when and how does surface tension deform soft solids?. Soft Matter, 2016, 12, 2993-2996.	2.7	77
57	Intrinsic Fluctuations and Driven Response of Insect Swarms. Physical Review Letters, 2015, 115, 118104.	7.8	39
58	Fluid-Driven Deformation of a Soft Granular Material. Physical Review X, 2015, 5, .	8.9	30
59	Edges of human embryonic stem cell colonies display distinct mechanical properties and differentiation potential. Scientific Reports, 2015, 5, 14218.	3.3	80
60	Wetting and phase separation in soft adhesion. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14490-14494.	7.1	73
61	Soft microcapsules with highly plastic shells formed by interfacial polyelectrolyteâ€“nanoparticle complexation. Soft Matter, 2015, 11, 7478-7482.	2.7	30
62	Surface tension and the mechanics of liquid inclusions in compliant solids. Soft Matter, 2015, 11, 672-679.	2.7	91
63	Structural Diversity of Arthropod Biophotonic Nanostructures Spans Amphiphilic Phase-Space. Nano Letters, 2015, 15, 3735-3742.	9.1	80
64	Adsorption of soft particles at fluid interfaces. Soft Matter, 2015, 11, 7412-7419.	2.7	115
65	Stiffening solids with liquid inclusions. Nature Physics, 2015, 11, 82-87.	16.7	212
66	Regeneration of Aplysia Bag Cell Neurons is Synergistically Enhanced by Substrate-Bound Hemolymph Proteins and Laminin. Scientific Reports, 2014, 4, 4617.	3.3	8
67	The Bacterial Cytoplasm Has Glass-like Properties and Is Fluidized by Metabolic Activity. Cell, 2014, 156, 183-194.	28.9	643
68	Single-step microfluidic fabrication of soft monodisperse polyelectrolyte microcapsules by interfacial complexation. Lab on A Chip, 2014, 14, 3494-3497.	6.0	65
69	Traction force microscopy in physics and biology. Soft Matter, 2014, 10, 4047.	2.7	249
70	Mechanotransduction and extracellular matrix homeostasis. Nature Reviews Molecular Cell Biology, 2014, 15, 802-812.	37.0	1,492
71	Adsorption of Sub-Micron Amphiphilic Dumbbells to Fluid Interfaces. Langmuir, 2014, 30, 5057-5063.	3.5	32
72	Towards the void. Nature Materials, 2013, 12, 783-784.	27.5	1

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73	Cadherin-based intercellular adhesions organize epithelial cellâ€“matrix traction forces. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 842-847.	7.1	215
74	Surfactant treatments influence drying mechanics in human stratum corneum. Journal of Biomechanics, 2013, 46, 2145-2151.	2.1	18
75	Surface tension and contact with soft elastic solids. Nature Communications, 2013, 4, 2728.	12.8	242
76	Imaging stress and strain in the fracture of drying colloidal films. Soft Matter, 2013, 9, 3735.	2.7	42
77	Universal Deformation of Soft Substrates Near a Contact Line and the Direct Measurement of Solid Surface Stresses. Physical Review Letters, 2013, 110, 066103.	7.8	269
78	Low-loss high-speed speckle reduction using a colloidal dispersion. Applied Optics, 2013, 52, 1168.	1.8	55
79	Patterning droplets with durotaxis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12541-12544.	7.1	172
80	Elastic Coupling of Nascent apCAM Adhesions to Flowing Actin Networks. PLoS ONE, 2013, 8, e73389.	2.5	15
81	Structure and optical function of amorphous photonic nanostructures from avian feather barbs: a comparative small angle X-ray scattering (SAXS) analysis of 230 bird species. Journal of the Royal Society Interface, 2012, 9, 2563-2580.	3.4	127
82	Scaling of Traction Forces with the Size of Cohesive Cell Colonies. Physical Review Letters, 2012, 108, 198101.	7.8	158
83	Membrane Tension Maintains Cell Polarity by Confining Signals to the Leading Edge during Neutrophil Migration. Cell, 2012, 148, 175-188.	28.9	490
84	Heterogeneous Drying Stresses in Stratum Corneum. Biophysical Journal, 2012, 102, 2424-2432.	0.5	22
85	Static wetting on deformable substrates, from liquids to soft solids. Soft Matter, 2012, 8, 7177.	2.7	210
86	A modular approach to the design of proteinâ€based smart gels. Biopolymers, 2012, 97, 508-517.	2.4	40
87	Deformation of an Elastic Substrate by a Three-Phase Contact Line. Physical Review Letters, 2011, 106, 186103.	7.8	223
88	Photonic band gaps in three-dimensional network structures with short-range order. Physical Review A, 2011, 84, .	2.5	57
89	Assembly of Optical-Scale Dumbbells into Dense Photonic Crystals. ACS Nano, 2011, 5, 6695-6700.	14.6	182
90	Short-range order and near-field effects on optical scattering and structural coloration. Optics Express, 2011, 19, 8208.	3.4	65

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91	Grasshoppers alter jumping biomechanics to enhance escape performance under chronic risk of spider predation. Functional Ecology, 2011, 25, 279-288.	3.6	63
92	Biomimetic Isotropic Nanostructures for Structural Coloration. Advanced Materials, 2010, 22, 2939-2944.	21.0	345
93	How Noniridescent Colors Are Generated by Quasiâ€ordered Structures of Bird Feathers. Advanced Materials, 2010, 22, 2871-2880.	21.0	228
94	Structural Color: How Noniridescent Colors Are Generated by Quasi-ordered Structures of Bird Feathers (Adv. Mater. 26-27/2010). Advanced Materials, 2010, 22, n/a-n/a.	21.0	3
95	Contribution of double scattering to structural coloration in quasiordered nanostructures of bird feathers. Physical Review E, 2010, 81, 051923.	2.1	23
96	Imaging in-plane and normal stresses near an interface crack using traction force microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14964-14967.	7.1	59
97	Structure, function, and self-assembly of single network gyroid (I 4 ₁ 32) photonic crystals in butterfly wing scales. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11676-11681.	7.1	428
98	High-Yield Synthesis of Monodisperse Dumbbell-Shaped Polymer Nanoparticles. Journal of the American Chemical Society, 2010, 132, 5960-5961.	13.7	193
99	Stimuli-Responsive Smart Gels Realized via Modular Protein Design. Journal of the American Chemical Society, 2010, 132, 14024-14026.	13.7	105
100	Double scattering of light from Biophotonic Nanostructures with short-range order. Optics Express, 2010, 18, 11942.	3.4	39
101	Many-body force and mobility measurements in colloidal systems. Soft Matter, 2010, 6, 2187.	2.7	20
102	Double Scattering of Light from Biophotonic Nanostructures with Short-Range Order. , 2010, , .		0
103	Optical Tweezers Shed Light on Cell Motility. , 2009, , .		0
104	Many-Body Electrostatic Forces between Colloidal Particles at Vanishing Ionic Strength. Physical Review Letters, 2009, 103, 138301.	7.8	68
105	Cell stimulation with optically manipulated microsources. Nature Methods, 2009, 6, 905-909.	19.0	89
106	Mechanical properties of individual microgel particles through the deswelling transition. Soft Matter, 2009, 5, 3682.	2.7	137
107	Synthesis of Colloidal Particles with the Symmetry of Water Molecules. Langmuir, 2009, 25, 8903-8906.	3.5	55
108	Multiplexed force measurements on live cells with holographic optical tweezers. Optics Express, 2009, 17, 6209.	3.4	56

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109	Development of colour-producing Î²-keratin nanostructures in avian feather barbs. Journal of the Royal Society Interface, 2009, 6, S253-65.	3.4	103
110	Self-assembly of amorphous biophotonic nanostructures by phase separation. Soft Matter, 2009, 5, 1792.	2.7	222
111	Electrostatic Interactions of Colloidal Particles at Vanishing Ionic Strength. Langmuir, 2008, 24, 13334-13337.	3.5	105
112	Electrostatic Interactions of Colloidal Particles in Nonpolar Solvents:â€‰ Role of Surface Chemistry and Charge Control Agents. Langmuir, 2008, 24, 1160-1164.	3.5	118
113	Study of Angle Dependent Reflection From a 3D Quasi-Ordered Photonic Crystal. , 2008, , .		0
114	Statistics of Particle Trajectories at Short Time Intervals Reveal fN-Scale Colloidal Forces. Physical Review Letters, 2007, 99, 018303.	7.8	69
115	Spatially extended FCS for visualizing and quantifying high-speed multiphase flows in microchannels. Optics Express, 2007, 15, 6528.	3.4	7
116	Dynamics of Fracture in Drying Suspensions. Langmuir, 2006, 22, 7144-7147.	3.5	126
117	Observation of Plasmon Propagation, Redirection, and Fan-Out in Silver Nanowires. Nano Letters, 2006, 6, 1822-1826.	9.1	376
118	Automated trapping, assembly, and sorting with holographic optical tweezers. Optics Express, 2006, 14, 13095.	3.4	207
119	Charge Stabilization in Nonpolar Solvents. Langmuir, 2005, 21, 4881-4887.	3.5	274
120	Flow and Fracture in Drying Nanoparticle Suspensions. Physical Review Letters, 2003, 91, 224501.	7.8	273
121	Nanofabrication with holographic optical tweezers. Review of Scientific Instruments, 2002, 73, 1956-1957.	1.3	61
122	Computer-generated holographic optical tweezer arrays. Review of Scientific Instruments, 2001, 72, 1810.	1.3	390
123	Brownian dynamics of a sphere between parallel walls. Europhysics Letters, 2001, 53, 264-270.	2.0	115
124	Hydrodynamic Coupling of Two Brownian Spheres to a Planar Surface. Physical Review Letters, 2000, 85, 3317-3320.	7.8	211
125	Optical tweezer arrays and optical substrates created with diffractive optics. Review of Scientific Instruments, 1998, 69, 1974-1977.	1.3	505