

# Eric R Dufresne

## List of Publications by Citations

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117  
papers

9,761  
citations

50  
h-index

98  
g-index

134  
ext. papers

11,461  
ext. citations

8.3  
avg, IF

6.42  
L-index

#	Paper	IF	Citations
117	Mechanotransduction and extracellular matrix homeostasis. <i>Nature Reviews Molecular Cell Biology</i> , <b>2014</b> , 15, 802-12	48.7	1061
116	The bacterial cytoplasm has glass-like properties and is fluidized by metabolic activity. <i>Cell</i> , <b>2014</b> , 156, 183-94	56.2	446
115	Membrane tension maintains cell polarity by confining signals to the leading edge during neutrophil migration. <i>Cell</i> , <b>2012</b> , 148, 175-88	56.2	390
114	Optical tweezer arrays and optical substrates created with diffractive optics. <i>Review of Scientific Instruments</i> , <b>1998</b> , 69, 1974-1977	1.7	376
113	Structure, function, and self-assembly of single network gyroid (I4132) photonic crystals in butterfly wing scales. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 11676-81	11.5	353
112	Observation of plasmon propagation, redirection, and fan-out in silver nanowires. <i>Nano Letters</i> , <b>2006</b> , 6, 1822-6	11.5	330
111	Computer-generated holographic optical tweezer arrays. <i>Review of Scientific Instruments</i> , <b>2001</b> , 72, 1810	1.7	313
110	Biomimetic isotropic nanostructures for structural coloration. <i>Advanced Materials</i> , <b>2010</b> , 22, 2939-44	24	277
109	Charge stabilization in nonpolar solvents. <i>Langmuir</i> , <b>2005</b> , 21, 4881-7	4	252
108	Flow and fracture in drying nanoparticle suspensions. <i>Physical Review Letters</i> , <b>2003</b> , 91, 224501	7.4	231
107	Universal deformation of soft substrates near a contact line and the direct measurement of solid surface stresses. <i>Physical Review Letters</i> , <b>2013</b> , 110, 066103	7.4	215
106	Surface tension and contact with soft elastic solids. <i>Nature Communications</i> , <b>2013</b> , 4, 2728	17.4	204
105	How noniridescent colors are generated by quasi-ordered structures of bird feathers. <i>Advanced Materials</i> , <b>2010</b> , 22, 2871-80	24	197
104	Hydrodynamic coupling of two brownian spheres to a planar surface. <i>Physical Review Letters</i> , <b>2000</b> , 85, 3317-20	7.4	188
103	Deformation of an elastic substrate by a three-phase contact line. <i>Physical Review Letters</i> , <b>2011</b> , 106, 186103	7.4	187
102	Traction force microscopy in physics and biology. <i>Soft Matter</i> , <b>2014</b> , 10, 4047-55	3.6	186
101	Self-assembly of amorphous biophotonic nanostructures by phase separation. <i>Soft Matter</i> , <b>2009</b> , 5, 1792	3.6	186

100	Static wetting on deformable substrates, from liquids to soft solids. <i>Soft Matter</i> , <b>2012</b> , 8, 7177	3.6	172
99	High-yield synthesis of monodisperse dumbbell-shaped polymer nanoparticles. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 5960-1	16.4	169
98	Elastocapillarity: Surface Tension and the Mechanics of Soft Solids. <i>Annual Review of Condensed Matter Physics</i> , <b>2017</b> , 8, 99-118	19.7	166
97	Cadherin-based intercellular adhesions organize epithelial cell-matrix traction forces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 842-7	11.5	160
96	Stiffening solids with liquid inclusions. <i>Nature Physics</i> , <b>2015</b> , 11, 82-87	16.2	151
95	Assembly of optical-scale dumbbells into dense photonic crystals. <i>ACS Nano</i> , <b>2011</b> , 5, 6695-700	16.7	149
94	Automated trapping, assembly, and sorting with holographic optical tweezers. <i>Optics Express</i> , <b>2006</b> , 14, 13095-100	3.3	143
93	Patterning droplets with durotaxis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 12541-4	11.5	135
92	Scaling of traction forces with the size of cohesive cell colonies. <i>Physical Review Letters</i> , <b>2012</b> , 108, 198101	11.4	129
91	Mechanical properties of individual microgel particles through the deswelling transition. <i>Soft Matter</i> , <b>2009</b> , 5, 3682	3.6	122
90	Electrostatic interactions of colloidal particles in nonpolar solvents: role of surface chemistry and charge control agents. <i>Langmuir</i> , <b>2008</b> , 24, 1160-4	4	109
89	Dynamics of fracture in drying suspensions. <i>Langmuir</i> , <b>2006</b> , 22, 7144-7	4	107
88	Brownian dynamics of a sphere between parallel walls. <i>Europhysics Letters</i> , <b>2001</b> , 53, 264-270	1.6	105
87	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. <i>Journal of the Royal Society Interface</i> , <b>2012</b> , 9, 2563-80	4.1	100
86	E-cadherin integrates mechanotransduction and EGFR signaling to control junctional tissue polarization and tight junction positioning. <i>Nature Communications</i> , <b>2017</b> , 8, 1250	17.4	99
85	Stimuli-responsive smart gels realized via modular protein design. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 14024-6	16.4	99
84	Electrostatic interactions of colloidal particles at vanishing ionic strength. <i>Langmuir</i> , <b>2008</b> , 24, 13334-7	4	97
83	Adsorption of soft particles at fluid interfaces. <i>Soft Matter</i> , <b>2015</b> , 11, 7412-9	3.6	89

82	Development of colour-producing beta-keratin nanostructures in avian feather barbs. <i>Journal of the Royal Society Interface</i> , <b>2009</b> , 6 Suppl 2, S253-65	4.1	86
81	Large Deformations of a Soft Porous Material. <i>Physical Review Applied</i> , <b>2016</b> , 5,	4.3	76
80	Cell stimulation with optically manipulated microspheres. <i>Nature Methods</i> , <b>2009</b> , 6, 905-9	21.6	74
79	Many-body electrostatic forces between colloidal particles at vanishing ionic strength. <i>Physical Review Letters</i> , <b>2009</b> , 103, 138301	7.4	66
78	Solid capillarity: when and how does surface tension deform soft solids?. <i>Soft Matter</i> , <b>2016</b> , 12, 2993-6	3.6	63
77	Statistics of particle trajectories at short time intervals reveal fN-scale colloidal forces. <i>Physical Review Letters</i> , <b>2007</b> , 99, 018303	7.4	63
76	Structural Diversity of Arthropod Biophotonic Nanostructures Spans Amphiphilic Phase-Space. <i>Nano Letters</i> , <b>2015</b> , 15, 3735-42	11.5	62
75	Single-step microfluidic fabrication of soft monodisperse polyelectrolyte microcapsules by interfacial complexation. <i>Lab on A Chip</i> , <b>2014</b> , 14, 3494-7	7.2	60
74	Surface tension and the mechanics of liquid inclusions in compliant solids. <i>Soft Matter</i> , <b>2015</b> , 11, 672-9	3.6	58
73	Edges of human embryonic stem cell colonies display distinct mechanical properties and differentiation potential. <i>Scientific Reports</i> , <b>2015</b> , 5, 14218	4.9	58
72	Magnetically Addressable Shape-Memory and Stiffening in a Composite Elastomer. <i>Advanced Materials</i> , <b>2019</b> , 31, e1900561	24	55
71	Direct measurement of strain-dependent solid surface stress. <i>Nature Communications</i> , <b>2017</b> , 8, 555	17.4	55
70	Short-range order and near-field effects on optical scattering and structural coloration. <i>Optics Express</i> , <b>2011</b> , 19, 8208-17	3.3	54
69	Wetting and phase separation in soft adhesion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 14490-4	11.5	51
68	Grasshoppers alter jumping biomechanics to enhance escape performance under chronic risk of spider predation. <i>Functional Ecology</i> , <b>2011</b> , 25, 279-288	5.6	50
67	Imaging in-plane and normal stresses near an interface crack using traction force microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 14964-7	11.5	50
66	Nanofabrication with holographic optical tweezers. <i>Review of Scientific Instruments</i> , <b>2002</b> , 73, 1956-1957	1.7	50
65	Synthesis of colloidal particles with the symmetry of water molecules. <i>Langmuir</i> , <b>2009</b> , 25, 8903-6	4	49

64	Low-loss high-speed speckle reduction using a colloidal dispersion. <i>Applied Optics</i> , <b>2013</b> , 52, 1168-72	1.7	45
63	Photonic band gaps in three-dimensional network structures with short-range order. <i>Physical Review A</i> , <b>2011</b> , 84,	2.6	45
62	Elastic ripening and inhibition of liquid-liquid phase separation. <i>Nature Physics</i> , <b>2020</b> , 16, 422-425	16.2	42
61	Multiplexed force measurements on live cells with holographic optical tweezers. <i>Optics Express</i> , <b>2009</b> , 17, 6209-17	3.3	41
60	A modular approach to the design of protein-based smart gels. <i>Biopolymers</i> , <b>2012</b> , 97, 508-17	2.2	36
59	Imaging stress and strain in the fracture of drying colloidal films. <i>Soft Matter</i> , <b>2013</b> , 9, 3735	3.6	34
58	Intrinsic fluctuations and driven response of insect swarms. <i>Physical Review Letters</i> , <b>2015</b> , 115, 118104	7.4	34
57	Double scattering of light from Biophotonic Nanostructures with short-range order. <i>Optics Express</i> , <b>2010</b> , 18, 11942-8	3.3	34
56	Surface elastic constants of a soft solid. <i>Soft Matter</i> , <b>2018</b> , 14, 916-920	3.6	33
55	Extreme cavity expansion in soft solids: Damage without fracture. <i>Science Advances</i> , <b>2020</b> , 6, eaaz0418	14.3	28
54	Liquid-Liquid Phase Separation in an Elastic Network. <i>Physical Review X</i> , <b>2018</b> , 8,	9.1	26
53	Soft microcapsules with highly plastic shells formed by interfacial polyelectrolyte-nanoparticle complexation. <i>Soft Matter</i> , <b>2015</b> , 11, 7478-82	3.6	25
52	Adsorption of sub-micron amphiphilic dumbbells to fluid interfaces. <i>Langmuir</i> , <b>2014</b> , 30, 5057-63	4	25
51	Domain morphology, boundaries, and topological defects in biophotonic gyroid nanostructures of butterfly wing scales. <i>Science Advances</i> , <b>2016</b> , 2, e1600149	14.3	23
50	Fluid-Driven Deformation of a Soft Granular Material. <i>Physical Review X</i> , <b>2015</b> , 5,	9.1	23
49	Heterogeneous drying stresses in stratum corneum. <i>Biophysical Journal</i> , <b>2012</b> , 102, 2424-32	2.9	19
48	Contribution of double scattering to structural coloration in quasicrystalline nanostructures of bird feathers. <i>Physical Review E</i> , <b>2010</b> , 81, 051923	2.4	19
47	Many-body force and mobility measurements in colloidal systems. <i>Soft Matter</i> , <b>2010</b> , 6, 2187	3.6	19

46	Segregated Ice Growth in a Suspension of Colloidal Particles. <i>Journal of Physical Chemistry B</i> , <b>2016</b> , 120, 3941-9	3.4	17
45	Long-range attraction of particles adhered to lipid vesicles. <i>Physical Review E</i> , <b>2016</b> , 94, 012604	2.4	16
44	Controlled formation of chitosan particles by a clock reaction. <i>Soft Matter</i> , <b>2018</b> , 14, 6415-6418	3.6	15
43	Surfactant treatments influence drying mechanics in human stratum corneum. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 2145-51	2.9	15
42	Elastic coupling of nascent apCAM adhesions to flowing actin networks. <i>PLoS ONE</i> , <b>2013</b> , 8, e73389	3.7	15
41	Singular dynamics in the failure of soft adhesive contacts. <i>Soft Matter</i> , <b>2019</b> , 15, 1327-1334	3.6	13
40	Non-invasive in vivo quantification of human skin tension lines. <i>Acta Biomaterialia</i> , <b>2019</b> , 88, 141-148	10.8	13
39	Switchable adhesion of soft composites induced by a magnetic field. <i>Soft Matter</i> , <b>2020</b> , 16, 5806-5811	3.6	12
38	Small-scale demixing in confluent biological tissues. <i>Soft Matter</i> , <b>2020</b> , 16, 3325-3337	3.6	12
37	Elastic stresses reverse Ostwald ripening. <i>Soft Matter</i> , <b>2020</b> , 16, 5892-5897	3.6	12
36	Fluctuations and correlations of emission from random lasers. <i>Physical Review A</i> , <b>2016</b> , 93,	2.6	12
35	Transient supramolecular assembly of a functional perylene diimide controlled by a programmable pH cycle. <i>Soft Matter</i> , <b>2020</b> , 16, 591-594	3.6	12
34	Surface tensiometry of phase separated protein and polymer droplets by the sessile drop method. <i>Soft Matter</i> , <b>2021</b> , 17, 1655-1662	3.6	12
33	Designing refractive index fluids using the Kramers-Kronig relations. <i>Faraday Discussions</i> , <b>2020</b> , 223, 136-144	3.6	11
32	Evolution of single gyroid photonic crystals in bird feathers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	11
31	Vinculin and the mechanical response of adherent fibroblasts to matrix deformation. <i>Scientific Reports</i> , <b>2018</b> , 8, 17967	4.9	11
30	Viscoelastic and Poroelastic Relaxations of Soft Solid Surfaces. <i>Physical Review Letters</i> , <b>2020</b> , 125, 238007	2.4	9
29	Supramolecular assembly by time-programmed acid autocatalysis. <i>Molecular Systems Design and Engineering</i> , <b>2020</b> , 5, 445-448	4.6	9

28	Tracking particles with large displacements using energy minimization. <i>Soft Matter</i> , <b>2017</b> , 13, 2201-2206	3.6	8
27	Effects of strain-dependent surface stress on the adhesive contact of a rigid sphere to a compliant substrate. <i>Soft Matter</i> , <b>2019</b> , 15, 2223-2231	3.6	8
26	Vancomycin Reduces Cell Wall Stiffness and Slows Swim Speed of the Lyme Disease Bacterium. <i>Biophysical Journal</i> , <b>2017</b> , 112, 746-754	2.9	7
25	Impact of in situ acid generation and iodine sequestration on the chlorite-iodide clock reaction. <i>Chaos</i> , <b>2019</b> , 29, 071102	3.3	7
24	Local Arp2/3-dependent actin assembly modulates applied traction force during apCAM adhesion site maturation. <i>Molecular Biology of the Cell</i> , <b>2017</b> , 28, 98-110	3.5	7
23	Regeneration of Aplysia bag cell neurons is synergistically enhanced by substrate-bound hemolymph proteins and laminin. <i>Scientific Reports</i> , <b>2014</b> , 4, 4617	4.9	7
22	Spatially extended FCS for visualizing and quantifying high-speed multiphase flows in microchannels. <i>Optics Express</i> , <b>2007</b> , 15, 6528-33	3.3	7
21	Putting the Squeeze on Phase Separation.. <i>Jacs Au</i> , <b>2022</b> , 2, 66-73		7
20	Forming Anisotropic Crystal Composites: Assessing the Mechanical Translation of Gel Network Anisotropy to Calcite Crystal Form. <i>Journal of the American Chemical Society</i> , <b>2021</b> , 143, 3439-3447	16.4	6
19	Supramolecular gelation controlled by an iodine clock. <i>Soft Matter</i> , <b>2021</b> , 17, 1189-1193	3.6	6
18	Mechanical stability of particle-stabilized droplets under micropipette aspiration. <i>Physical Review E</i> , <b>2017</b> , 95, 012805	2.4	5
17	Strain-Dependent Solid Surface Stress and the Stiffness of Soft Contacts. <i>Physical Review X</i> , <b>2017</b> , 7,	9.1	5
16	Sustained enzymatic activity and flow in crowded protein droplets. <i>Nature Communications</i> , <b>2021</b> , 12, 6293	17.4	5
15	Wrapping of Microparticles by Floppy Lipid Vesicles. <i>Physical Review Letters</i> , <b>2020</b> , 125, 198102	7.4	5
14	Structural color from solid-state polymerization-induced phase separation. <i>Soft Matter</i> , <b>2021</b> , 17, 5772-5779	3.7	5
13	Maximum likelihood estimations of force and mobility from single short Brownian trajectories. <i>Soft Matter</i> , <b>2017</b> , 13, 2174-2180	3.6	4
12	Droplets Sit and Slide Anisotropically on Soft, Stretched Substrates. <i>Physical Review Letters</i> , <b>2021</b> , 126, 158004	7.4	4
11	When Black and White make Green: the Surprising Interplay of Structure and Pigments. <i>Chimia</i> , <b>2019</b> , 73, 47-50	1.3	3

10	How surface stress transforms surface profiles and adhesion of rough elastic bodies. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2020</b> , 476, 20200477	2.4	3
9	Temporal Control of Soft Materials with Chemical Clocks. <i>Chimia</i> , <b>2020</b> , 74, 612-612	1.3	3
8	Shape-Controlled Nanoparticles from a Low-Energy Nanoemulsion. <i>Jacs Au</i> , <b>2021</b> , 1, 1975-1986		3
7	Contact lines on stretched soft solids: modelling anisotropic surface stresses. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2021</b> , 477, 20200673	2.4	2
6	Non-specific adhesive forces between filaments and membraneless organelles.. <i>Nature Physics</i> , <b>2022</b> , 18, 571-578	16.2	2
5	Structural Color: How Noniridescent Colors Are Generated by Quasi-ordered Structures of Bird Feathers (Adv. Mater. 2607/2010). <i>Advanced Materials</i> , <b>2010</b> , 22, n/a-n/a	24	1
4	A robust method for quantification of surface elasticity in soft solids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2022</b> , 161, 104786	5	1
3	Surface Tension and the Strain-Dependent Topography of Soft Solids. <i>Physical Review Letters</i> , <b>2021</b> , 127, 208001	7.4	1
2	Micromirror Total Internal Reflection Microscopy for High-Performance Single Particle Tracking at Interfaces. <i>ACS Photonics</i> , <b>2021</b> , 8, 3111-3118	6.3	1
1	Enhancing the Refractive Index of Polymers with a Plant-Based Pigment. <i>Small</i> , <b>2021</b> , 17, e2103061	11	1