Elliot L Elson

List of Publications by Year
in descending order

115 papers	12,018 citations	38742 50 h-index	28297 105 g-index
118 all docs	118 docs citations	118 times ranked	8365 citing authors

#	Article	IF	Citations
1	Thermodynamic Fluctuations in a Reacting Systemâ€”Measurement by Fluorescence Correlation Spectroscopy. Physical Review Letters, 1972, 29, 705-708.	7.8	1,526
2	Fluorescence correlation spectroscopy. I. Conceptual basis and theory. Biopolymers, 1974, 13, 1-27.	2.4	1,467
3	Fluorescence correlation spectroscopy. II. An experimental realization. Biopolymers, 1974, 13, 29-61.	2.4	1,340
4	Threeâ€dimensional reconstitution of embryonic cardiomyocytes in a collagen matrix: a new heart muscle model system. FASEB Journal, 1997, 11, 683-694.	0.5	584
5	Fluorescence Correlation Spectroscopy: Past, Present, Future. Biophysical Journal, 2011, 101, 2855-2870.	0.5	356
6	Fluorescence correlation spectroscopy. III. Uniform translation and laminar flow. Biopolymers, 1978, 17, 361-376.	2.4	303
7	Nanometre-level analysis demonstrates that lipid flow does not drive membrane glycoprotein movements. Nature, 1989, 340, 284-288.	27.8	281
8	Short Communication: Vascular Smooth Muscle Cell Stiffness As a Mechanism for Increased Aortic Stiffness With Aging. Circulation Research, 2010, 107, 615-619.	4.5	275
9	Capping of surface receptors and concomitant cortical tension are generated by conventional myosin. Nature, 1989, 341, 549-551.	27.8	272
10	Cell Mechanics Studied by a Reconstituted Model Tissue. Biophysical Journal, 2000, 79, 2353-2368.	0.5	212
11	Helix Formation by dAT oligomers. Journal of Molecular Biology, 1968, 36, 291-304.	4.2	207
12	Phase Separation in Biological Membranes: Integration of Theory and Experiment. Annual Review of Biophysics, 2010, 39, 207-226.	10.0	188
13	Oligomerization of the EGF Receptor Investigated by Live Cell Fluorescence Intensity Distribution Analysis. Biophysical Journal, 2007, 93, 1021-1031.	0.5	184
14	Interstitial Collagenase Is a Brownian Ratchet Driven by Proteolysis of Collagen. Science, 2004, 306, 108-111.	12.6	174
15	Analysis of confocal laser-microscope optics for 3-D fluorescence correlation spectroscopy. Applied Optics, 1991, 30, 1185.	2.1	166
16	Capping protein levels influence actin assembly and cell motility in dictyostelium. Cell, 1995, 81, 591-600.	28.9	158
17	Helix formation by d(TA) oligomers. Journal of Molecular Biology, 1970, 48, 145-171.	4.2	153
18	Lateral motion and valence of Fc receptors on rat peritoneal mast cells. Nature, 1976, 264, 550-552.	27.8	143

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19	Mechanics of cell spreading: role of myosin II. Journal of Cell Science, 2003, 116, 1617-1625.	2.0	141
20	The kinetics of conformational fluctuations in an unfolded protein measured by fluorescence methods. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 2385-2389.	7.1	138
21	A sequential model of nucleation-dependent protein folding: Kinetic studies of ribonuclease A. Journal of Molecular Biology, 1972, 63, 453-469.	4.2	133
22	Statistical Analysis of Fluorescence Correlation Spectroscopy: The Standard Deviation and Bias. Biophysical Journal, 2003, 84, 2030-2042.	0.5	130
23	Forward transport of glycoproteins on leading lamellipodia in locomoting cells. Nature, 1989, 340, 315-317.	27.8	121
24	Diffusion of Human Replication Protein A along Single-Stranded DNA. Journal of Molecular Biology, 2014, 426, 3246-3261.	4.2	120
25	Measurement of microsecond dynamic motion in the intestinal fatty acid binding protein by using fluorescence correlation spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 14171-14176.	7.1	119
26	Concentration fluctuations in a mesoscopic oscillating chemical reaction system. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 10376-10381.	7.1	118
27	Fluorescence Correlation Spectroscopy Measures Molecular Transport in Cells. Traffic, 2001, 2, 789-796.	2.7	112
28	Measuring Unfolding of Proteins in the Presence of Denaturant Using Fluorescence Correlation Spectroscopy. Biophysical Journal, 2005, 88, 1413-1422.	0.5	99
29	Quick tour of fluorescence correlation spectroscopy from its inception. Journal of Biomedical Optics, 2004, 9, 857.	2.6	97
30	Regulation of cytoskeletal mechanics and cell growth by myosin light chain phosphorylation. American Journal of Physiology - Cell Physiology, 1998, 275, C1349-C1356.	4.6	96
31	A Cell-Based Constitutive Relation for Bio-Artificial Tissues. Biophysical Journal, 2000, 79, 2369-2381.	0.5	96
32	Helix formation by d(TA) oligomers. Journal of Molecular Biology, 1970, 54, 401-415.	4.2	94
33	The biochemical response of the heart to hypertension and exercise. Trends in Biochemical Sciences, 2004, 29, 609-617.	7.5	89
34	A simplified approach to quasi-linear viscoelastic modeling. Journal of Biomechanics, 2007, 40, 3070-3078.	2.1	84
35	Reciprocal interactions between cells and extracellular matrix during remodeling of tissue constructs. Biophysical Chemistry, 2002, 100, 593-605.	2.8	78
36	Weak Dependence of Mobility of Membrane Protein Aggregates on Aggregate Size Supports a Viscous Model of Retardation of Diffusion. Biophysical Journal, 1999, 76, 314-322.	0.5	77

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37	Fluorescence correlation spectroscopy with high-order and dual-color correlation to probe nonequilibrium steady states. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 2828-2833.	7.1	77
38	Analysis of cell surface interactions by measurements of lateral mobility. Journal of Supramolecular Structure, 1979, 12, 481-489.	2.3	76
39	Incremental Mechanics of Collagen Gels: New Experiments and a New Viscoelastic Model. Annals of Biomedical Engineering, 2003, 31, 1287-1296.	2.5	72
40	Stretch-activated force shedding, force recovery, and cytoskeletal remodeling in contractile fibroblasts. Journal of Biomechanics, 2008, 41, 2964-2971.	2.1	72
41	The Relationship between Cell and Tissue Strain in Three-Dimensional Bio-Artificial Tissues. Biophysical Journal, 2005, 88, 778-789.	0.5	71
42	Hydrolysis of 2-Methyl-Î”2-thiazoline and its Formation from N-Acetyl-Î²-mercaptoethylamine. Observations on an N-S Acyl Shift1. Journal of the American Chemical Society, 1959, 81, 5089-5095.	13.7	70
43	Diffusion of MMPs on the Surface of Collagen Fibrils: The Mobile Cell Surface â€“ Collagen Substratum Interface. PLoS ONE, 2011, 6, e24029.	2.5	69
44	Efficient and optimized identification of generalized Maxwell viscoelastic relaxation spectra. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 32-41.	3.1	62
45	One-Dimensional Viscoelastic Behavior of Fibroblast Populated Collagen Matrices. Journal of Biomechanical Engineering, 2003, 125, 719-725.	1.3	58
46	Physically-Induced Cytoskeleton Remodeling of Cells in Three-Dimensional Culture. PLoS ONE, 2012, 7, e45512.	2.5	57
47	Surface particle transport mechanism independent of myosin II in Dictyostelium. Nature, 1992, 356, 438-440.	27.8	56
48	Collagen Receptor Control of Epithelial Morphogenesis and Cell Cycle Progression. American Journal of Pathology, 1999, 155, 927-940.	3.8	56
49	Rho-kinase-mediated Ca2+-independent contraction in rat embryo fibroblasts. American Journal of Physiology - Cell Physiology, 2004, 286, C8-C21.	4.6	54
50	Thin Bio-Artificial Tissues in Plane Stress: The Relationship between Cell and Tissue Strain, and an Improved Constitutive Model. Biophysical Journal, 2005, 88, 765-777.	0.5	52
51	Fluorescence photobleaching recovery measurements reveal differences in envelopment of sindbis and vesicular stomatitis viruses. Cell, 1981, 23, 423-431.	28.9	48
52	Chapter 11 Interpretation of Fluorescence Correlation Spectroscopy and Photobleaching Recovery in Terms of Molecular Interactions. Methods in Cell Biology, 1989, 30, 307-332.	1.1	47
53	Reconstitution of the Frank-Starling Mechanism in Engineered Heart Tissues. Biophysical Journal, 2006, 91, 1800-1810.	0.5	46
54	Cellular and Matrix Mechanics of Bioartificial Tissues During Continuous Cyclic Stretch. Annals of Biomedical Engineering, 2006, 34, 1678-1690.	2.5	44

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55	Cellular and Matrix Contributions to Tissue Construct Stiffness Increase with Cellular Concentration. Annals of Biomedical Engineering, 2006, 34, 1475-1482.	2.5	41
56	The effect of salivary amylase on the viscosity behaviour of gelatinised starch suspensions and the mechanical properties of gelatinised starch granules. Journal of the Science of Food and Agriculture, 1986, 37, 573-590.	3.5	39
57	Quantitative Study of Polymer Conformation and Dynamics by Single-Particle Tracking. Biophysical Journal, 1999, 76, 1598-1605.	0.5	39
58	Fractionation of oligodeoxynucleotides by polyacrylamide gel electrophoresis. Analytical Biochemistry, 1969, 27, 193-204.	2.4	37
59	Epidermal growth factor induces acute matrix contraction and subsequent calpain-modulated relaxation. Wound Repair and Regeneration, 2002, 10, 67-76.	3.0	37
60	The Balance between Actomyosin Contractility and Microtubule Polymerization Regulates Hierarchical Protrusions That Govern Efficient Fibroblastâ€“Collagen Interactions. ACS Nano, 2020, 14, 7868-7879.	14.6	37
61	Brief Introduction to Fluorescence Correlation Spectroscopy. Methods in Enzymology, 2013, 518, 11-41.	1.0	35
62	Remodeling by fibroblasts alters the rate-dependent mechanical properties of collagen. Acta Biomaterialia, 2016, 37, 28-37.	8.3	35
63	The role of mechanics in actin stress fiber kinetics. Experimental Cell Research, 2013, 319, 2490-2500.	2.6	33
64	Axial and transverse stiffness measures of cochlear outer hair cells suggest a common mechanical basis. Pflugers Archiv European Journal of Physiology, 1998, 436, 9-15.	2.8	32
65	Fluorescence photobleaching in cell biology. Nature, 1982, 295, 283-284.	27.8	30
66	Fibroblast Contractility without an Increase in Basal Myosin Light Chain Phosphorylation in Wild Type Cells and Cells Expressing the Catalytic Domain of Myosin Light Chain Kinase. Journal of Biological Chemistry, 1995, 270, 18734-18737.	3.4	30
67	What fluorescence correlation spectroscopy can tell us about unfolded proteins. Advances in Protein Chemistry, 2002, 62, 91-109.	4.4	29
68	Cell Orientation Influences the Biaxial Mechanical Properties of Fibroblast Populated Collagen Vessels. Annals of Biomedical Engineering, 2004, 32, 720-731.	2.5	29
69	A discrete spectral analysis for determining quasi-linear viscoelastic properties of biological materials. Journal of the Royal Society Interface, 2015, 12, 20150707.	3.4	29
70	Differences in the response of several cell types to inhibition of surface receptor mobility by local concanavalina binding. Experimental Cell Research, 1981, 136, 189-201.	2.6	28
71	Mechanical Properties of HL60 Cells: Role of Stimulation and Differentiation in Retention in Capillary-sized Pores. American Journal of Respiratory Cell and Molecular Biology, 1991, 5, 230-241.	2.9	28
72	Substrate Recognition by Gelatinase A: The C-Terminal Domain Facilitates Surface Diffusion. Biophysical Journal, 2001, 81, 2370-2377.	0.5	28

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73	Tissue constructs: platforms for basic research and drug discovery. Interface Focus, 2016, 6, 20150095.	3.0	28
74	Alpha1-adrenergic stimulation and cytoplasmic free calcium concentration in cultured renal proximal tubular cells: Evidence for compartmentalization of quin-2 and fura-2. Journal of Cellular Physiology, 1986, 128, 466-474.	4.1	27
75	Continual assembly of desmosomes within stable intercellular contacts of epithelial A-431 cells. Cell and Tissue Research, 2003, 314, 399-410.	2.9	27
76	A new technique for optical observation of the kinetics of chemical reactions perturbed by small pressure changes. Biopolymers, 1975, 14, 883-887.	2.4	25
77	Membrane receptor mobility changes by sendai virus. Experimental Cell Research, 1979, 123, 333-343.	2.6	25
78	Myosin-based contraction is not necessary for cardiac c-looping in the chick embryo. Anatomy and Embryology, 2006, 211, 443-454.	1.5	24
79	Discrete quasi-linear viscoelastic damping analysis of connective tissues, and the biomechanics of stretching. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 69, 193-202.	3.1	23
80	Engineering lipid tubules using nano-sized building blocks: the combinatorial self-assembly of vesicles. Lab on A Chip, 2008, 8, 339-345.	6.0	19
81	A model for positive feedback control of the transformation of fibroblasts to myofibroblasts. Progress in Biophysics and Molecular Biology, 2019, 144, 30-40.	2.9	19
82	40 Years of FCS. Methods in Enzymology, 2013, 518, 1-10.	1.0	18
83	Fibroblasts Slow Conduction Velocity in a Reconstituted Tissue Model of Fibrotic Cardiomyopathy. ACS Biomaterials Science and Engineering, 2017, 3, 3022-3028.	5.2	17
84	Introduction to fluorescence correlation Spectroscopyâ€"Brief and simple. Methods, 2018, 140-141, 3-9.	3.8	17
85	The strand-separation transition of T2 bacteriophage DNA. Biopolymers, 1974, 13, 797-824.	2.4	15
86	Energy dissipation in quasi-linear viscoelastic tissues, cells, and extracellular matrix. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 84, 198-207.	3.1	15
87	On the application of strain factors for approximation of the contribution of anisotropic cells to the mechanics of a tissue construct. Journal of Biomechanics, 2006, 39, 2145-2151.	2.1	13
88	Investigation of Nanoscopic Phase Separations in Lipid Membranes Using Inverse FCS. Biophysical Journal, 2017, 112, 2367-2376.	0.5	13
89	Confidence Intervals for Concentration and Brightness from Fluorescence Fluctuation Measurements. Biophysical Journal, 2012, 103, 898-906.	0.5	11
90	Analysis of the steady-state approximation for the sequential model. Journal of Molecular Biology, 1972, 63, 469-475.	4.2	8

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91	5. Fluorescence Methods for Studying Membrane Dynamics. Methods in Experimental Physics, 1982, 20, 197-227.	0.1	8
92	The M Protein of Vesicular Stomatitis Virus. Biophysical Journal, 1982, 37, 26-28.	0.5	7
93	Cross-linking surface immunoglobulin increases the stiffness of lymphocytes. Molecular Immunology, 1984, 21, 1253-1257.	2.2	7
94	Collective Matrix Remodeling by Isolated Cells: Unionizing Home Improvement Do-It-Yourselfers. Biophysical Journal, 2015, 108, 2611-2612.	0.5	5
95	Fluorescence Correlation Spectroscopy and Photon Counting Histograms in Finite, Bounded Domains. Biophysical Journal, 2020, 119, 265-273.	0.5	5
96	Fluorescence photobleaching and correlation spectroscopy for translational diffusion in biological systems. Biochemical Society Transactions, 1986, 14, 839-841.	3.4	4
97	Actin tracks. Nature, 1991, 354, 362-363.	27.8	3
98	Reminiscences on the "Classic" 1976 FRAP Article in Biophysical Journal. Biophysical Journal, 2018, 115, 1156-1159.	0.5	3
99	A review on qualifications and cost effectiveness of induced pluripotent stem cells (IPSCs)-induced cardiomyocytes in drug screening tests. Archives of Physiology and Biochemistry, 2023, 129, 131-142.	2.1	3
100	Mechanically Guided Cell Migration: Less of a Stretch than Ever. Biophysical Journal, 2014, 106, 776-777.	0.5	2
101	Stable fitting of noisy stress relaxation data. Mechanics of Soft Materials, 2019, 1, 1.	0.9	2
102	To flow or not to flow?. Nature, 1990, 345, 28-28.	27.8	1
103	Barriers to diffusion. Current Biology, 1993, 3, 152-154.	3.9	1
104	Atomic Force Microscopy of Phase Separation on Ruptured, Giant Unilamellar Vesicles, and a Mechanical Pathway for the Co-Existence of Lipid Gel Phases. Journal of Biomechanical Engineering, 2019, 141, .	1.3	1
105	Memorial Viewpoint for Watt W. Webb: An Experimentalistâ€™s Experimentalist. Journal of Physical Chemistry B, 2021, 125, 2793-2795.	2.6	1
106	FCS, Then and Now. Microscopy and Microanalysis, 2003, 9, 1144-1145.	0.4	0
107	Confidence Intervals for Estimation of the Concentration and Brightness of Multiple Diffusing Species. , 2012, , .		0
108	Confidence Intervals for Estimation of the Concentration and Brightness of Multiple Diffusing Species. , 2012, , .		0

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109	Study of Nanoscopic Phase Separation in Membranes using Inverse FCS. Biophysical Journal, 2013, 104, 373a.	0.5	0
110	Import of Short Peptides in Yeast as a Bistable Switch. Biophysical Journal, 2013, 104, 159a-160a.	0.5	0
111	Watt W. Webb: His measurements of the seemingly inaccessible broadened the horizons of biophysics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	0
112	Increases in Vascular Smooth Muscle Stiffness with Aging. FASEB Journal, 2010, 24, .	0.5	0
113	Interfacial Phases on Giant Unilamellar Vesicles. , 2012, , .		0
114	Optical Microscopy Methods for Measuring Structure and Dynamic Processes of Cells and Tissues. , 2014, , 507-518.		0
115	Alternative Pathways of Epidermal Growth Factor Receptor Mediated Contractile Force in NR6 Fibroblasts. , 1999, , .		0