Denis Wirtz

List of Publications by Year
in descending order

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226 papers	24,696 citations	5876 81 h-index	9311 143 g-index
237 all docs	237 docs citations	237 times ranked	26586 citing authors

#	Article	IF	Citations
1	Hypoxia and the extracellular matrix: drivers of tumour metastasis. Nature Reviews Cancer, 2014, 14, 430-439.	12.8	1,110
2	The physics of cancer: the role of physical interactions and mechanical forces in metastasis. Nature Reviews Cancer, 2011, 11, 512-522.	12.8	1,038
3	Reversible Hydrogels from Self-Assembling Artificial Proteins. , 1998, 281, 389-392.		990
4	Micro- and macrorheology of mucus. Advanced Drug Delivery Reviews, 2009, 61, 86-100.	6.6	919
5	Particle-Tracking Microrheology of Living Cells: Principles and Applications. Annual Review of Biophysics, 2009, 38, 301-326.	4.5	559
6	A distinctive role for focal adhesion proteins in three-dimensional cell motility. Nature Cell Biology, 2010, 12, 598-604.	4.6	525
7	A perinuclear actin cap regulates nuclear shape. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 19017-19022.	3.3	511
8	Mechanics of Living Cells Measured by Laser Tracking Microrheology. Biophysical Journal, 2000, 78, 1736-1747.	0.2	476
9	A comparison of methods to assess cell mechanical properties. Nature Methods, 2018, 15, 491-498.	9.0	448
10	Water Permeation Drives Tumor Cell Migration in Confined Microenvironments. Cell, 2014, 157, 611-623.	13.5	416
11	Hypoxia-inducible Factor 1 (HIF-1) Promotes Extracellular Matrix Remodeling under Hypoxic Conditions by Inducing P4HA1, P4HA2, and PLOD2 Expression in Fibroblasts. Journal of Biological Chemistry, 2013, 288, 10819-10829.	1.6	406
12	Hypoxia-inducible factor 1 is a master regulator of breast cancer metastatic niche formation. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16369-16374.	3.3	375
13	Micromechanical Mapping of Live Cells by Multiple-Particle-Tracking Microrheology. Biophysical Journal, 2002, 83, 3162-3176.	0.2	368
14	Efficient active transport of gene nanocarriers to the cell nucleus. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 3878-3882.	3.3	345
15	Transient Opening of the Mitochondrial PermeabilityÂTransition Pore Induces Microdomain Calcium Transients in Astrocyte Processes. Neuron, 2017, 93, 587-605.e7.	3.8	338
16	Focal adhesion size uniquely predicts cell migration. FASEB Journal, 2013, 27, 1351-1361.	0.2	299
17	Three-dimensional cell migration does not follow a random walk. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3949-3954.	3.3	281
18	Nuclear Lamin A/C Deficiency Induces Defects in Cell Mechanics, Polarization, and Migration. Biophysical Journal, 2007, 93, 2542-2552.	0.2	271

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19	Enhanced Viscoelasticity of Human Cystic Fibrotic Sputum Correlates with Increasing Microheterogeneity in Particle Transport. Journal of Biological Chemistry, 2003, 278, 50393-50401.	1.6	258
20	Cell migration without a lamellipodium. Journal of Cell Biology, 2005, 168, 619-631.	2.3	257
21	Collagen Prolyl Hydroxylases Are Essential for Breast Cancer Metastasis. Cancer Research, 2013, 73, 3285-3296.	0.4	251
22	Structural requirements for the assembly of LINC complexes and their function in cellular mechanical stiffness. Experimental Cell Research, 2008, 314, 1892-1905.	1.2	248
23	Micro-organization and visco-elasticity of the interphase nucleus revealed by particle nanotracking. Journal of Cell Science, 2004, 117, 2159-2167.	1.2	236
24	Extracellular vesicles in immunomodulation and tumor progression. Nature Immunology, 2021, 22, 560-570.	7.0	233
25	Procollagen Lysyl Hydroxylase 2 Is Essential for Hypoxia-Induced Breast Cancer Metastasis. Molecular Cancer Research, 2013, 11, 456-466.	1.5	216
26	The Mechanobiology of Aging. Annual Review of Biomedical Engineering, 2015, 17, 113-141.	5.7	216
27	Multiple-Particle Tracking Measurements of Heterogeneities in Solutions of Actin Filaments and Actin Bundles. Biophysical Journal, 2000, 79, 1095-1106.	0.2	209
28	Dynamics of individual flexible polymers in a shear flow. Nature, 1999, 399, 564-566.	13.7	202
29	Single-molecule analysis of cadherin-mediated cell-cell adhesion. Journal of Cell Science, 2006, 119, 66-74.	1.2	194
30	MinC Spatially Controls Bacterial Cytokinesis by Antagonizing the Scaffolding Function of FtsZ. Current Biology, 2008, 18, 235-244.	1.8	193
31	Strain Hardening of Actin Filament Networks. Journal of Biological Chemistry, 2000, 275, 35886-35892.	1.6	192
32	Diffusing Wave Spectroscopy Microrheology of Actin Filament Networks. Biophysical Journal, 1999, 76, 1063-1071.	0.2	187
33	Three-dimensional matrix fiber alignment modulates cell migration and MT1-MMP utility by spatially and temporally directing protrusions. Scientific Reports, 2015, 5, 14580.	1.6	183
34	Dysfunctional Connections Between the Nucleus and the Actin and Microtubule Networks in Laminopathic Models. Biophysical Journal, 2008, 95, 5462-5475.	0.2	181
35	Fibronectin fibrillogenesis regulates three-dimensional neovessel formation. Genes and Development, 2008, 22, 1231-1243.	2.7	179
36	Dynamic Cross-linking by Î±-Actinin Determines the Mechanical Properties of Actin Filament Networks. Journal of Biological Chemistry, 1998, 273, 9570-9576.	1.6	172

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37	Magnetic tweezers for DNA micromanipulation. Review of Scientific Instruments, 2000, 71, 4561.	0.6	171
38	Single Molecule Characterization of P-selectin/Ligand Binding. Journal of Biological Chemistry, 2003, 278, 10556-10561.	1.6	167
39	Probing Single-Cell Micromechanics In Vivo: The Microrheology of C. elegans Developing Embryos. Biophysical Journal, 2006, 90, 4712-4719.	0.2	166
40	Hypoxia-inducible factors mediate coordinated RhoA-ROCK1 expression and signaling in breast cancer cells. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E384-93.	3.3	165
41	Mechanics and Dynamics of Actin-Driven Thin Membrane Protrusions. Biophysical Journal, 2006, 90, 65-76.	0.2	162
42	Intracellular Mechanics of Migrating Fibroblasts. Molecular Biology of the Cell, 2005, 16, 328-338.	0.9	161
43	The â€˜insâ€™ and â€˜outsâ€™ of intermediate filament organization. Trends in Cell Biology, 2000, 10, 420-428.	3.6	160
44	Actin cap associated focal adhesions and their distinct role in cellular mechanosensing. Scientific Reports, 2012, 2, 555.	1.6	159
45	The LINC-anchored actin cap connects the extracellular milieu to the nucleus for ultrafast mechanotransduction. Scientific Reports, 2013, 3, 1087.	1.6	158
46	Modeling the two-way feedback between contractility and matrix realignment reveals a nonlinear mode of cancer cell invasion. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E1617-E1626.	3.3	158
47	Towards a regional approach to cell mechanics. Trends in Cell Biology, 2004, 14, 160-166.	3.6	156
48	High-Throughput Secretomic Analysis of Single Cells to Assess Functional Cellular Heterogeneity. Analytical Chemistry, 2013, 85, 2548-2556.	3.2	156
49	A Direct Interaction between Actin and Vimentin Filaments Mediated by the Tail Domain of Vimentin*. Journal of Biological Chemistry, 2006, 281, 30393-30399.	1.6	150
50	A physical sciences network characterization of non-tumorigenic and metastatic cells. Scientific Reports, 2013, 3, 1449.	1.6	146
51	Mechanics and Multiple-Particle Tracking Microheterogeneity of Î±-Actinin-Cross-Linked Actin Filament Networks. Biophysical Journal, 2001, 81, 1643-1656.	0.2	138
52	A 'hot-spot' mutation alters the mechanical properties of keratin filament networks. Nature Cell Biology, 2001, 3, 503-506.	4.6	137
53	Confinement Sensing and Signal Optimization via Piezo1/PKA and Myosin II Pathways. Cell Reports, 2016, 15, 1430-1441.	2.9	137
54	The distinct roles of the nucleus and nucleus-cytoskeleton connections in three-dimensional cell migration. Scientific Reports, 2012, 2, 488.	1.6	136

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55	Mapping Local Matrix Remodeling Induced by a Migrating Tumor Cell Using Three-Dimensional Multiple-Particle Tracking. Biophysical Journal, 2008, 95, 4077-4088.	0.2	135
56	Synergistic IL-6 and IL-8 paracrine signalling pathway infers a strategy to inhibit tumour cell migration. Nature Communications, 2017, 8, 15584.	5.8	133
57	Nuclear lamin A/C harnesses the perinuclear apical actin cables to protect nuclear morphology. Nature Communications, 2017, 8, 2123.	5.8	132
58	Condensation of FtsZ filaments can drive bacterial cell division. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 121-126.	3.3	130
59	Compliance of actin filament networks measured by particle-tracking microrheology and diffusing wave spectroscopy. Rheologica Acta, 1998, 37, 387-398.	1.1	125
60	Inhibition of Spleen Tyrosine Kinase Potentiates Paclitaxel-Induced Cytotoxicity in Ovarian Cancer Cells by Stabilizing Microtubules. Cancer Cell, 2015, 28, 82-96.	7.7	125
61	Keratin Filament Suspensions Show Unique Micromechanical Properties. Journal of Biological Chemistry, 1999, 274, 19145-19151.	1.6	123
62	Cytoskeletal tension induces the polarized architecture of the nucleus. Biomaterials, 2015, 48, 161-172.	5.7	121
63	Altering Mucus Rheology to â€œSolidifyâ€•Human Mucus at the Nanoscale. PLoS ONE, 2009, 4, e4294.	1.1	120
64	Micromechanics and ultrastructure of actin filament networks crosslinked by human fascin: A comparison with Î±-actinin. Journal of Molecular Biology, 2001, 310, 351-366.	2.0	117
65	The Bimodal Role of Filamin in Controlling the Architecture and Mechanics of F-actin Networks. Journal of Biological Chemistry, 2004, 279, 1819-1826.	1.6	115
66	Transport of Polymeric Nanoparticle Gene Carriers in Gastric Mucus. Biotechnology Progress, 2004, 20, 851-857.	1.3	115
67	Engineered Models of Confined Cell Migration. Annual Review of Biomedical Engineering, 2016, 18, 159-180.	5.7	115
68	How actin crosslinking and bundling proteins cooperate to generate an enhanced cell mechanical response. Biochemical and Biophysical Research Communications, 2005, 334, 183-192.	1.0	113
69	Single-cell morphology encodes metastatic potential. Science Advances, 2020, 6, eaaw6938.	4.7	112
70	The Assembly of MreB, a Prokaryotic Homolog of Actin. Journal of Biological Chemistry, 2005, 280, 2628-2635.	1.6	108
71	Rheology and Microrheology of Semiflexible Polymer Solutions:Â Actin Filament Networks. Macromolecules, 1998, 31, 6486-6492.	2.2	105
72	Tight coupling between nucleus and cell migration through the perinuclear actin cap. Journal of Cell Science, 2014, 127, 2528-41.	1.2	105

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73	Volume regulation and shape bifurcation in the cell nucleus. Journal of Cell Science, 2015, 128, 3375-85.	1.2	104
74	Distinct kinetic and mechanical properties govern selectin-leukocyte interactions. Journal of Cell Science, 2004, 117, 2503-2511.	1.2	102
75	Ballistic intracellular nanorheology reveals ROCK-hard cytoplasmic stiffening response to fluid flow. Journal of Cell Science, 2006, 119, 1760-1768.	1.2	101
76	Magnetic Tweezers Measurement of Single Molecule Torque. Nano Letters, 2009, 9, 1720-1725.	4.5	101
77	Structure of the Actin Crosslinking Core of Fimbrin. Structure, 2004, 12, 999-1013.	1.6	100
78	Hypoxia Selectively Enhances Integrin Î±5Î²1 Receptor Expression in Breast Cancer to Promote Metastasis. Molecular Cancer Research, 2017, 15, 723-734.	1.5	99
79	Statistical analysis of cell migration in 3D using the anisotropic persistent random walk model. Nature Protocols, 2015, 10, 517-527.	5.5	96
80	Direct Measurement of the Transport Properties of a Single DNA Molecule. Physical Review Letters, 1995, 75, 2436-2439.	2.9	94
81	Dimensional and temporal controls of three-dimensional cell migration by zyxin and binding partners. Nature Communications, 2012, 3, 719.	5.8	92
82	A mechanism of coupling RCC1 mobility to RanGTP production on the chromatin in vivo. Journal of Cell Biology, 2003, 160, 635-644.	2.3	90
83	Microrheology and ROCK Signaling of Human Endothelial Cells Embedded in a 3D Matrix. Biophysical Journal, 2006, 91, 3499-3507.	0.2	90
84	Mismatch in Mechanical and Adhesive Properties Induces Pulsating Cancer Cell Migration in Epithelial Monolayer. Biophysical Journal, 2012, 102, 2731-2741.	0.2	89
85	Pairwise Assembly Determines the Intrinsic Potential for Self-Organization and Mechanical Properties of Keratin Filaments. Molecular Biology of the Cell, 2002, 13, 382-391.	0.9	87
86	PEG-Based Hydrogels with Collagen Mimetic Peptide-Mediated and Tunable Physical Cross-Links. Biomacromolecules, 2010, 11, 2336-2344.	2.6	86
87	Morphology of the Lamellipodium and Organization of Actin Filaments at the Leading Edge of Crawling Cells. Biophysical Journal, 2005, 89, 3589-3602.	0.2	85
88	Rho Kinase Regulates the Intracellular Micromechanical Response of Adherent Cells to Rho Activation. Molecular Biology of the Cell, 2004, 15, 3475-3484.	0.9	83
89	Cdc42 Mediates Nucleus Movement and MTOC Polarization in Swiss 3T3 Fibroblasts under Mechanical Shear Stress. Molecular Biology of the Cell, 2005, 16, 871-880.	0.9	82
90	Multiple scale model for cell migration in monolayers: Elastic mismatch between cells enhances motility. Scientific Reports, 2015, 5, 11745.	1.6	81

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91	Evolution of cellular morpho-phenotypes in cancer metastasis. Scientific Reports, 2016, 5, 18437.	1.6	81
92	High-frequency viscoelasticity of crosslinked actin filament networks measured by diffusing wave spectroscopy. Rheologica Acta, 1998, 37, 97-106.	1.1	75
93	Biophysical and biomolecular determination of cellular age in humans. Nature Biomedical Engineering, 2017, 1, .	11.6	74
94	Mechanics of Enveloped Virus Entry into Host Cells. Biophysical Journal, 2006, 90, L10-L12.	0.2	73
95	Real-Time Intracellular Transport of Gene Nanocarriers Studied by Multiple Particle Tracking. Biotechnology Progress, 2008, 20, 598-602.	1.3	73
96	Crossâ€linking FtsZ polymers into coherent Z rings. Molecular Microbiology, 2010, 78, 651-668.	1.2	72
97	The multi-faceted role of the actin cap in cellular mechanosensation and mechanotransduction. Soft Matter, 2013, 9, 5516.	1.2	72
98	Single-Molecule Analysis of Human Immunodeficiency Virus Type 1 gp120-Receptor Interactions in Living Cells. Journal of Virology, 2005, 79, 14748-14755.	1.5	71
99	Phase transitions induced by electric fields in near-critical polymer solutions. Physical Review Letters, 1993, 71, 2236-2239.	2.9	70
100	Î±-Catenin mediates initial E-cadherin-dependent cellâ€“cell recognition and subsequent bond strengthening. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18331-18336.	3.3	70
101	Collective cancer cell invasion induced by coordinated contractile stresses. Oncotarget, 2015, 6, 43438-43451.	0.8	70
102	One-dimensional patterns and wavelength selection in magnetic fluids. Physical Review Letters, 1994, 72, 2294-2297.	2.9	69
103	Predicting how cells spread and migrate. Cell Adhesion and Migration, 2013, 7, 293-296.	1.1	68
104	The nonhelical tail domain of keratin 14 promotes filament bundling and enhances the mechanical properties of keratin intermediate filaments in vitro. Journal of Cell Biology, 2001, 155, 747-754.	2.3	66
105	Functional Synergy of Actin Filament Cross-linking Proteins. Journal of Biological Chemistry, 2002, 277, 25609-25616.	1.6	66
106	The mechanical properties of simple epithelial keratins 8 and 18: discriminating between interfacial and bulk elasticities. Journal of Structural Biology, 2003, 143, 45-55.	1.3	66
107	Nuclear Envelope Breakdown Requires Overcoming the Mechanical Integrity of the Nuclear Lamina. Journal of Biological Chemistry, 2004, 279, 43462-43467.	1.6	66
108	The Arp2/3 complex mediates multigeneration dendritic protrusions for efficient 3â€dimensional cancer cell migration. FASEB Journal, 2013, 27, 4089-4099.	0.2	65

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109	The perinuclear actin cap in health and disease. Nucleus, 2010, 1, 337-342.	0.6	64
110	Magnetic Manipulation of Nanorods in the Nucleus of Living Cells. Biophysical Journal, 2011, 101, 1880-1886.	0.2	64
111	Cell tension and mechanical regulation of cell volume. Molecular Biology of the Cell, 2018, 29, 0-0.	0.9	64
112	GTPase Activity, Structure, and Mechanical Properties of Filaments Assembled from Bacterial Cytoskeleton Protein MreB. Journal of Bacteriology, 2006, 188, 968-976.	1.0	62
113	Receptorâ€“ligand binding: â€˜catchâ€™ bonds finally caught. Current Biology, 2003, 13, R611-R613.	1.8	61
114	Multi-nucleated cells use ROS to induce breast cancer chemo-resistance in vitro and in vivo. Oncogene, 2018, 37, 4546-4561.	2.6	61
115	Supramolecular Design of Unsymmetric Reverse Bolaamphiphiles for Cellâ€Sensitive Hydrogel Degradation and Drug Release. Angewandte Chemie - International Edition, 2020, 59, 4434-4442.	7.2	60
116	Differential vesicular sorting of AMPA and GABA _A receptors. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E922-31.	3.3	58
117	A robust unsupervised machine-learning method to quantify the morphological heterogeneity of cells and nuclei. Nature Protocols, 2021, 16, 754-774.	5.5	58
118	Effect of Length, Topology, and Concentration on the Microviscosity and Microheterogeneity of DNA Solutions. Journal of Molecular Biology, 2002, 323, 199-215.	2.0	57
119	Probing Intercellular Interactions between Vascular Endothelial Cadherin Pairs at Single-molecule Resolution and in Living Cells. Journal of Molecular Biology, 2006, 358, 665-674.	2.0	55
120	Resolving the Role of Actoymyosin Contractility in Cell Microrheology. PLoS ONE, 2009, 4, e7054.	1.1	55
121	Polymerization and Bundling Kinetics of FtsZ Filaments. Biophysical Journal, 2008, 95, 4045-4056.	0.2	54
122	Î±-Actinin and Filamin Cooperatively Enhance the Stiffness of Actin Filament Networks. PLoS ONE, 2009, 4, e4411.	1.1	54
123	Loss of Î±-Catenin Decreases the Strength of Single E-cadherin Bonds between Human Cancer Cells. Journal of Biological Chemistry, 2009, 284, 18252-18259.	1.6	54
124	Reply: reducing background fluorescence reveals adhesions in 3D matrices. Nature Cell Biology, 2011, 13, 5-7.	4.6	53
125	Microheterogeneity Controls the Rate of Gelation of Actin Filament Networks. Journal of Biological Chemistry, 2002, 277, 18143-18150.	1.6	52
126	The Filamentous Actin Cross-Linking/Bundling Activity of Mammalian Formins. Journal of Molecular Biology, 2008, 384, 324-334.	2.0	52

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127	High-throughput ballistic injection nanorheology to measure cell mechanics. Nature Protocols, 2012, 7, 155-170.	5.5	52
128	Metabolic and Mechanical Cues Regulating Pluripotent Stem Cell Fate. Trends in Cell Biology, 2018, 28, 1014-1029.	3.6	52
129	The Differential Formation of the LINC-Mediated Perinuclear Actin Cap in Pluripotent and Somatic Cells. PLoS ONE, 2012, 7, e36689.	1.1	51
130	Monitoring Early Fusion Dynamics of Human Immunodeficiency Virus Type 1 at Single-Molecule Resolution. Journal of Virology, 2008, 82, 7022-7033.	1.5	49
131	Asymmetric enrichment of PIE-1 in the Caenorhabditis elegans zygote mediated by binary counterdiffusion. Journal of Cell Biology, 2009, 184, 473-479.	2.3	49
132	Divergent roles of CD44 and carcinoembryonic antigen in colon cancer metastasis. FASEB Journal, 2012, 26, 2648-2656.	0.2	48
133	Three-dimensional visualization of cleared human pancreas cancer reveals that sustained epithelial-to-mesenchymal transition is not required for venous invasion. Modern Pathology, 2020, 33, 639-647.	2.9	47
134	Microheterogeneity and Microrheology of Wheat Gliadin Suspensions Studied by Multiple-Particle Tracking. Biomacromolecules, 2002, 3, 92-99.	2.6	46
135	Supramolecular Design of Unsymmetric Reverse Bolaamphiphiles for Cellâ€Sensitive Hydrogel Degradation and Drug Release. Angewandte Chemie, 2020, 132, 4464-4472.	1.6	46
136	Age-dependent stochastic models for understanding population fluctuations in continuously cultured cells. Journal of the Royal Society Interface, 2013, 10, 20130325.	1.5	45
137	Inactivation of Arid1a in the endometrium is associated with endometrioid tumorigenesis through transcriptional reprogramming. Nature Communications, 2020, 11, 2717.	5.8	45
138	Rheological Properties of Vital Wheat Gluten Suspensions. Cereal Chemistry, 2001, 78, 181-185.	1.1	44
139	Dynamic organelle distribution initiates actin-based spindle migration in mouse oocytes. Nature Communications, 2020, 11, 277.	5.8	44
140	Programmed subcellular release for studying the dynamics of cell detachment. Nature Methods, 2009, 6, 211-213.	9.0	43
141	Torsional Mechanics of DNA Are Regulated by Small-Molecule Intercalation. Journal of Physical Chemistry B, 2010, 114, 16929-16935.	1.2	42
142	SMRT analysis of MTOC and nuclear positioning reveals the role of EB1 and LIC1 in single-cell polarization. Journal of Cell Science, 2011, 124, 4267-4285.	1.2	40
143	Modulation of keratocyte phenotype by collagen fibril nanoarchitecture in membranes for corneal repair. Biomaterials, 2013, 34, 9365-9372.	5.7	39
144	YAP and TAZ regulate cell volume. Journal of Cell Biology, 2019, 218, 3472-3488.	2.3	39

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145	Dorsoventral polarity directs cell responses to migration track geometries. Science Advances, 2020, 6, eaba6505.	4.7	39
146	Nucleation and Decay Initiation Are the Stiffness-Sensitive Phases of Focal Adhesion Maturation. Biophysical Journal, 2011, 101, 2919-2928.	0.2	38
147	Immunolabeling of Cleared Human Pancreata Provides Insights into Three-Dimensional Pancreatic Anatomy and Pathology. American Journal of Pathology, 2018, 188, 1530-1535.	1.9	38
148	Local dynamics and viscoelastic properties of cell biological systems. Current Opinion in Colloid and Interface Science, 2002, 7, 210-217.	3.4	36
149	Role of membrane-tension gated Ca flux in cell mechanosensation. Journal of Cell Science, 2018, 131, .	1.2	36
150	The Biophysics of 3D Cell Migration. Annual Review of Biophysics, 2018, 47, 549-567.	4.5	35
151	Use of the p-values as a size-dependent function to address practical differences when analyzing large datasets. Scientific Reports, 2021, 11, 20942.	1.6	35
152	Differences in the Microrheology of Human Embryonic Stem Cells and Human Induced Pluripotent Stem Cells. Biophysical Journal, 2010, 99, 3563-3570.	0.2	34
153	Cancer Protrusions on a Tightrope: Nanofiber Curvature Contrast Quantitates Single Protrusion Dynamics. ACS Nano, 2017, 11, 12037-12048.	7.3	34
154	Fluctuation dynamics of a single magnetic chain. Physical Review E, 1996, 54, 5502-5510.	0.8	30
155	Single-molecule binding of CD44 to fibrin versus P-selectin predicts their distinct shear-dependent interactions in cancer. Journal of Cell Science, 2011, 124, 1903-1910.	1.2	30
156	Morphological Effects on Expression of Growth Differentiation Factor 15 (GDF15), a Marker of Metastasis. Journal of Cellular Physiology, 2014, 229, 362-373.	2.0	30
157	Structure-function relationship of biological gels revealed by multiple-particle tracking and differential interference contrast microscopy:â€ƒThe case of human lamin networks. Physical Review E, 2004, 70, 041906.	0.8	29
158	Intracellular Microrheology as a Tool for the Measurement of the Local Mechanical Properties of Live Cells. Methods in Cell Biology, 2004, 78, 45-64.	0.5	29
159	NAC1 Is an Actin-Binding Protein That Is Essential for Effective Cytokinesis in Cancer Cells. Cancer Research, 2012, 72, 4085-4096.	0.4	29
160	Electric-field-induced structure in polymer solutions near the critical point. Macromolecules, 1992, 25, 7234-7246.	2.2	28
161	Senescent stromal cells induce cancer cell migration via inhibition of RhoA/ROCK/myosin-based cell contractility. Oncotarget, 2015, 6, 30516-30531.	0.8	28
162	Shear-Induced Assembly of Î»-Phage DNA. Biophysical Journal, 2000, 79, 1530-1536.	0.2	27

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163	Micromechanical coupling between cell surface receptors and RGD peptides. Biochemical and Biophysical Research Communications, 2002, 296, 771-778.	1.0	27
164	Dendritic Branching and Homogenization of Actin Networks Mediated by Arp2/3 Complex. Physical Review Letters, 2004, 93, 258104.	2.9	26
165	EB1 and cytoplasmic dynein mediate protrusion dynamics for efficient 3â€dimensional cell migration. FASEB Journal, 2018, 32, 1207-1221.	0.2	26
166	Tumor cell density regulates matrix metalloproteinases for enhanced migration. Oncotarget, 2018, 9, 32556-32569.	0.8	26
167	Probing Cellular Mechanical Responses to Stimuli Using Ballistic Intracellular Nanorheology. Methods in Cell Biology, 2007, 83, 113-140.	0.5	24
168	Simultaneously defining cell phenotypes, cell cycle, and chromatin modifications at singleâ€cell resolution. FASEB Journal, 2013, 27, 2667-2676.	0.2	24
169	Nuclear Envelope in Nuclear Positioning and Cell Migration. Advances in Experimental Medicine and Biology, 2014, 773, 471-490.	0.8	24
170	Distinct Kinetic and Molecular Requirements Govern CD44 Binding to Hyaluronan versus Fibrin(ogen). Biophysical Journal, 2012, 103, 415-423.	0.2	23
171	Functional interplay between the cell cycle and cell phenotypes. Integrative Biology (United Kingdom), 2013, 5, 523-534.	0.6	23
172	Inhibition of ovarian tumor cell invasiveness by targeting SYK in the tyrosine kinase signaling pathway. Oncogene, 2018, 37, 3778-3789.	2.6	22
173	Dimensional Control of Cancer Cell Migration. Biophysical Journal, 2013, 104, 279-280.	0.2	21
174	Biophysical changes reduce energetic demand in growth factorâ€“deprived lymphocytes. Journal of Cell Biology, 2016, 212, 439-447.	2.3	21
175	Loss of giant obscurins alters breast epithelial cell mechanosensing of matrix stiffness. Oncotarget, 2017, 8, 54004-54020.	0.8	21
176	Dynamics of the Bacterial Intermediate Filament Crescentin In Vitro and In Vivo. PLoS ONE, 2010, 5, e8855.	1.1	20
177	COX-2 dependent regulation of mechanotransduction in human breast cancer cells. Cancer Biology and Therapy, 2015, 16, 430-437.	1.5	20
178	Particle tracking microrheology of cancer cells in living subjects. Materials Today, 2020, 39, 98-109.	8.3	20
179	Pluri-IQ: Quantification of Embryonic Stem Cell Pluripotency through anÂImage-Based Analysis Software. Stem Cell Reports, 2017, 9, 697-709.	2.3	19
180	Organization of Cellular Receptors into a Nanoscale Junction during HIV-1 Adhesion. PLoS Computational Biology, 2010, 6, e1000855.	1.5	18

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181	Dissecting cellular mechanics: Implications for aging, cancer, and immunity. Seminars in Cell and Developmental Biology, 2019, 93, 16-25.	2.3	18
182	Chapter 15 Liveâ€Cell Singleâ€Molecule Force Spectroscopy. Methods in Cell Biology, 2008, 89, 411-432.	0.5	17
183	Triggering cell detachment from patterned electrode arrays by programmed subcellular release. Nature Protocols, 2010, 5, 1273-1280.	5.5	17
184	Going with the Flow: Water Flux and Cell Shape during Cytokinesis. Biophysical Journal, 2017, 113, 2487-2495.	0.2	17
185	Recapitulation of molecular regulators of nuclear motion during cell migration. Cell Adhesion and Migration, 2019, 13, 50-62.	1.1	17
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