Alex Mogilner

List of Publications by Year
in descending order

72 papers	4,858 citations	126708 33 h-index	106150 65 g-index
113 all docs	113 docs citations	113 times ranked	4963 citing authors

#	Article	IF	Citations
1	Mechanism of shape determination in motile cells. Nature, 2008, 453, 475-480.	13.7	658
2	The Spatial Arrangement of Chromosomes during Prometaphase Facilitates Spindle Assembly. Cell, 2011, 146, 555-567.	13.5	279
3	Cell division. Nature, 2003, 422, 746-752.	13.7	270
4	An Adhesion-Dependent Switch between Mechanisms That Determine Motile Cell Shape. PLoS Biology, 2011, 9, e1001059.	2.6	270
5	The Shape of Motile Cells. Current Biology, 2009, 19, R762-R771.	1.8	236
6	Mathematics of cell motility: have we got its number?. Journal of Mathematical Biology, 2009, 58, 105-134.	0.8	205
7	Traveling waves in actin dynamics and cell motility. Current Opinion in Cell Biology, 2013, 25, 107-115.	2.6	180
8	Actin-Myosin Viscoelastic Flow in the Keratocyte Lamellipod. Biophysical Journal, 2009, 97, 1853-1863.	0.2	164
9	Competition for actin between two distinct F-actin networks defines a bistable switch for cell polarization. Nature Cell Biology, 2015, 17, 1435-1445.	4.6	156
10	Electrophoresis of Cellular Membrane Components Creates the Directional Cue Guiding Keratocyte Galvanotaxis. Current Biology, 2013, 23, 560-568.	1.8	143
11	Timing of centrosome separation is important for accurate chromosome segregation. Molecular Biology of the Cell, 2012, 23, 401-411.	0.9	139
12	Adaptive changes in the kinetochore architecture facilitate proper spindle assembly. Nature Cell Biology, 2015, 17, 1134-1144.	4.6	139
13	Quantitative Modeling in Cell Biology: What Is It Good for?. Developmental Cell, 2006, 11, 279-287.	3.1	117
14	Dynein Antagonizes Eg5 by Crosslinking and Sliding Antiparallel Microtubules. Current Biology, 2009, 19, 1833-1838.	1.8	114
15	Mechanical stimulation induces formin-dependent assembly of a perinuclear actin rim. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2595-601.	3.3	105
16	Computer simulations predict that chromosome movements and rotations accelerate mitotic spindle assembly without compromising accuracy. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15708-15713.	3.3	97
17	Balance between cellâ^substrate adhesion and myosin contraction determines the frequency of motility initiation in fish keratocytes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5045-5050.	3.3	96
18	Modeling mitosis. Trends in Cell Biology, 2006, 16, 88-96.	3.6	93

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19	Keratocyte Fragments and Cells Utilize Competing Pathways to Move in Opposite Directions in an Electric Field. Current Biology, 2013, 23, 569-574.	1.8	77
20	Adhesion-Dependent Wave Generation in Crawling Cells. Current Biology, 2017, 27, 27-38.	1.8	73
21	Stress fibres are embedded in a contractile cortical network. Nature Materials, 2021, 20, 410-420.	13.3	73
22	Towards a quantitative understanding of mitotic spindle assembly and mechanics. Journal of Cell Science, 2010, 123, 3435-3445.	1.2	66
23	Redundant Mechanisms for Stable Cell Locomotion Revealed by Minimal Models. Biophysical Journal, 2011, 101, 545-553.	0.2	63
24	Actin-Membrane Release Initiates Cell Protrusions. Developmental Cell, 2020, 55, 723-736.e8.	3.1	59
25	Actin Turnover in Lamellipodial Fragments. Current Biology, 2017, 27, 2963-2973.e14.	1.8	58
26	Reverse engineering of force integration during mitosis in the Drosophila embryo. Molecular Systems Biology, 2008, 4, 195.	3.2	56
27	A Combination of Actin Treadmilling and Cross-Linking Drives Contraction of Random Actomyosin Arrays. Biophysical Journal, 2015, 109, 1818-1829.	0.2	53
28	Nuclear Scaling Is Coordinated among Individual Nuclei in Multinucleated Muscle Fibers. Developmental Cell, 2019, 49, 48-62.e3.	3.1	52
29	Comparison of cell migration mechanical strategies in three-dimensional matrices: a computational study. Interface Focus, 2016, 6, 20160040.	1.5	51
30	A free-boundary model of a motile cell explains turning behavior. PLoS Computational Biology, 2017, 13, e1005862.	1.5	44
31	A mechanism of leading-edge protrusion in the absence of Arp2/3 complex. Molecular Biology of the Cell, 2015, 26, 901-912.	0.9	43
32	Scaling behaviour in steady-state contracting actomyosin networks. Nature Physics, 2019, 15, 509-516.	6.5	43
33	A large-scale screen reveals genes that mediate electrotaxis in Dictyostelium discoideum. Science Signaling, 2015, 8, ra50.	1.6	39
34	Modeling cellular processes in 3D. Trends in Cell Biology, 2011, 21, 692-700.	3.6	38
35	Mesoscopic Model of Actin-Based Propulsion. PLoS Computational Biology, 2012, 8, e1002764.	1.5	36
36	Mechanical positioning of multiple nuclei in muscle cells. PLoS Computational Biology, 2018, 14, e1006208.	1.5	35

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37	Collective cell migration has distinct directionality and speed dynamics. Cellular and Molecular Life Sciences, 2017, 74, 3841-3850.	2.4	33
38	Network heterogeneity regulates steering in actin-based motility. Nature Communications, 2017, 8, 655.	5.8	30
39	Centering and symmetry breaking in confined contracting actomyosin networks. ELife, 2020, 9, .	2.8	29
40	Infection-generated electric field in gut epithelium drives bidirectional migration of macrophages. PLoS Biology, 2019, 17, e3000044.	2.6	28
41	Experiment, theory, and the keratocyte: An ode to a simple model for cell motility. Seminars in Cell and Developmental Biology, 2020, 100, 143-151.	2.3	26
42	Non-centrosomal microtubules at kinetochores promote rapid chromosome biorientation during mitosis in human cells. Current Biology, 2022, 32, 1049-1063.e4.	1.8	24
43	Classical and Emerging Regulatory Mechanisms of Cytokinesis in Animal Cells. Biology, 2019, 8, 55.	1.3	22
44	Cell Mechanics at the Rear Act to Steer the Direction of Cell Migration. Cell Systems, 2020, 11, 286-299.e4.	2.9	20
45	Mechanosensitive Adhesion Explains Stepping Motility in Amoeboid Cells. Biophysical Journal, 2017, 112, 2672-2682.	0.2	19
46	Microtubule Dynamics, Kinesin-1 Sliding, andÂDynein Action Drive Growth of Cell Processes. Biophysical Journal, 2018, 115, 1614-1624.	0.2	19
47	Integral-based spectral method for inextensible slender fibers in Stokes flow. Physical Review Fluids, 2021, 6, .	1.0	19
48	Cytoskeletal Chirality: Swirling Cells Tell Left from Right. Current Biology, 2015, 25, R501-R503.	1.8	18
49	Agent-based modeling: case study in cleavage furrow models. Molecular Biology of the Cell, 2016, 27, 3379-3384.	0.9	16
50	Mechanics of Multicentrosomal Clustering in Bipolar Mitotic Spindles. Biophysical Journal, 2020, 119, 434-447.	0.2	16
51	Quantitative regulation of the dynamic steady state of actin networks. ELife, 2019, 8, .	2.8	16
52	cAMP and cGMP Play an Essential Role in Galvanotaxis of Cell Fragments. Journal of Cellular Physiology, 2016, 231, 1291-1300.	2.0	10
53	Actomyosin contraction, aggregation and traveling waves in a treadmilling actin array. Physica D: Nonlinear Phenomena, 2016, 318-319, 70-83.	1.3	9
54	Effects of malleable kinetochore morphology on measurements of intrakinetochore tension. Open Biology, 2020, 10, 200101.	1.5	9

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55	Electric fields accelerate cell polarization and bypass myosin action in motility initiation. Journal of Cellular Physiology, 2018, 233, 2378-2385.	2.0	8
56	Computational estimates of mechanical constraints on cell migration through the extracellular matrix. PLoS Computational Biology, 2020, 16, e1008160.	1.5	8
57	Interplay between Brownian motion and cross-linking controls bundling dynamics in actin networks. Biophysical Journal, 2022, 121, 1230-1245.	0.2	8
58	Myosin Clusters of Finite Size Develop Contractile Stress in 1D Random Actin Arrays. Biophysical Journal, 2017, 113, 937-947.	0.2	7
59	Simulations of dynamically cross-linked actin networks: Morphology, rheology, and hydrodynamic interactions. PLoS Computational Biology, 2021, 17, e1009240.	1.5	7
60	Quantitative biology on the rise. Molecular Biology of the Cell, 2016, 27, 3377-3378.	0.9	6
61	An Experimental Model for Simultaneous Study of Migration of Cell Fragments, Single Cells, and Cell Sheets. Methods in Molecular Biology, 2016, 1407, 251-272.	0.4	5
62	Mechanical Torque Promotes Bipolarity of the Mitotic Spindle Through Multi-centrosomal Clustering. Bulletin of Mathematical Biology, 2022, 84, 29.	0.9	5
63	CellDynaMoâ€“stochastic reaction-diffusion-dynamics model: Application to search-and-capture process of mitotic spindle assembly. PLoS Computational Biology, 2022, 18, e1010165.	1.5	4
64	Reverse-engineering forces responsible for dynamic clustering and spreading of multiple nuclei in developing muscle cells. Molecular Biology of the Cell, 2020, 31, 1802-1814.	0.9	3
65	Supracellular organization confers directionality and mechanical potency to migrating pairs of cardiopharyngeal progenitor cells. ELife, 2021, 10, .	2.8	3
66	Src activation decouples cell division orientation from cell geometry in mammalian cells. Biomaterials, 2018, 170, 82-94.	5.7	2
67	Bending, Pushing, and Ratcheting It Up: Memories of a Modeling Effort. Biophysical Journal, 2016, 111, 1593-1594.	0.2	0
68	Title is missing!. , 2020, 16, e1008160.		0
69	Title is missing!. , 2020, 16, e1008160.		0
70	Title is missing!. , 2020, 16, e1008160.		0
71	Title is missing!. , 2020, 16, e1008160.		0
72	Title is missing!. , 2020, 16, e1008160.		0