David J Odde

List of Publications by Year
in descending order

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130	7,468	53660	62479
papers	citations	45 h-index	80 g-index

151	151	151	7053
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Traction Dynamics of Filopodia on Compliant Substrates. Science, 2008, 322, 1687-1691.	6.0	759
2	Laser-guided direct writing of living cells. Biotechnology and Bioengineering, 2000, 67, 312-318.	1.7	277
3	Laser-guided direct writing for applications in biotechnology. Trends in Biotechnology, 1999, 17, 385-389.	4.9	258
4	Laser-guided direct writing for three-dimensional tissue engineering. Biotechnology and Bioengineering, 2005, 92, 129-136.	1.7	249
5	Mechanochemical Model of Microtubule Structure and Self-Assembly Kinetics. Biophysical Journal, 2005, 89, 2911-2926.	0.2	230
6	Estimates of lateral and longitudinal bond energies within the microtubule lattice. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 6035-6040.	3.3	227
7	Shifting the optimal stiffness for cell migration. Nature Communications, 2017, 8, 15313.	5.8	217
8	Potential for Control of Signaling Pathways via Cell Size and Shape. Current Biology, 2006, 16, 1685-1693.	1.8	201
9	Rapid Microtubule Self-Assembly Kinetics. Cell, 2011, 146, 582-592.	13.5	201
10	Determinants of Maximal Force Transmission in a Motor-Clutch Model of Cell Traction in a Compliant Microenvironment. Biophysical Journal, 2013, 105, 581-592.	0.2	185
11	Chromosome Congression by Kinesin-5 Motor-Mediated Disassembly of Longer Kinetochore Microtubules. Cell, 2008, 135, 894-906.	13.5	168
12	Microtubule Assembly Dynamics at the Nanoscale. Current Biology, 2007, 17, 1445-1455.	1.8	159
13	Stable Kinetochore-Microtubule Attachment Constrains Centromere Positioning in Metaphase. Current Biology, 2004, 14, 1962-1967.	1.8	144
14	Rapid dynamics of the microtubule binding of ensconsin in vivo. Journal of Cell Science, 2001, 114, 3885-3897.	1.2	140
15	Tension-dependent Regulation of Microtubule Dynamics at Kinetochores Can Explain Metaphase Congression in Yeast. Molecular Biology of the Cell, 2005, 16, 3764-3775.	0.9	124
16	Regulation of the MEX-5 Gradient by a Spatially Segregated Kinase/Phosphatase Cycle. Cell, 2011, 146, 955-968.	13.5	122
17	Kinetics of microtubule catastrophe assessed by probabilistic analysis. Biophysical Journal, 1995, 69, 796-802.	0.2	120
18	Micropatterning of living cells by laser-guided direct writing: application to fabrication of hepaticâ€“endothelial sinusoid-like structures. Nature Protocols, 2006, 1, 2288-2296.	5.5	117

#	Article	IF	Citations
19	Evolving Tip Structures Can Explain Age-Dependent Microtubule Catastrophe. Current Biology, 2013, 23, 1342-1348.	1.8	116
20	Enhanced substrate stress relaxation promotes filopodia-mediated cell migration. Nature Materials, 2021, 20, 1290-1299.	13.3	111
21	Integrin-mediated traction force enhances paxillin molecular associations and adhesion dynamics that increase the invasiveness of tumor cells into a three-dimensional extracellular matrix. Molecular Biology of the Cell, 2017, 28, 1467-1488.	0.9	110
22	Tensile Force-Dependent Neurite Elicitation via Anti-Î²1 Integrin Antibody-Coated Magnetic Beads. Biophysical Journal, 2003, 85, 623-636.	0.2	102
23	Dynein Tethers and Stabilizes Dynamic Microtubule Plus Ends. Current Biology, 2012, 22, 632-637.	1.8	102
24	Estimating the Microtubule GTP Cap Size InÂVivo. Current Biology, 2012, 22, 1681-1687.	1.8	101
25	Mechanisms of Microtubule-Based Kinetochore Positioning in the Yeast Metaphase Spindle. Biophysical Journal, 2003, 84, 3529-3546.	0.2	93
26	Mps1 Phosphorylation of Dam1 Couples Kinetochores to Microtubule Plus Ends at Metaphase. Current Biology, 2006, 16, 1489-1501.	1.8	93
27	Directed cell migration towards softer environments. Nature Materials, 2022, 21, 1081-1090.	13.3	86
28	Anterograde Microtubule Transport Drives Microtubule Bending in LLC-PK1 Epithelial Cells. Molecular Biology of the Cell, 2009, 20, 2943-2953.	0.9	83
29	Biphasic Dependence of Glioma Survival and Cell Migration on CD44 Expression Level. Cell Reports, 2017, 18, 23-31.	2.9	81
30	Micro-Patterning of Animal Cells on PDMS Substrates in the Presence of Serum without Use of Adhesion Inhibitors. Biomedical Microdevices, 2004, 6, 219-222.	1.4	79
31	The Importance of Lattice Defects in Katanin-Mediated Microtubule Severing in Vitro. Biophysical Journal, 2002, 82, 2916-2927.	0.2	75
32	Endothelium-Mediated Hepatocyte Recruitment in the Establishment of Liver-like TissueIn Vitro. Tissue Engineering, 2006, 12, 1627-1638.	4.9	75
33	Minus-End-Directed Kinesin-14 Motors Align Antiparallel Microtubules to Control Metaphase Spindle Length. Developmental Cell, 2014, 31, 61-72.	3.1	71
34	Master Equation-Based Analysis of a Motor-Clutch Model for Cell Traction Force. Cellular and Molecular Bioengineering, 2013, 6, 449-459.	1.0	65
35	Regulation and dynamics of force transmission at individual cell-matrix adhesion bonds. Science Advances, 2020, 6, eaax0317.	4.7	65
36	The microtubule-based motor Kar3 and plus endâ€“binding protein Bim1 provide structural support for the anaphase spindle. Journal of Cell Biology, 2008, 180, 91-100.	2.3	64

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37	mTOR inhibition in COVIDâ€19: A commentary and review of efficacy in RNA viruses. Journal of Medical Virology, 2021, 93, 1843-1846.	2.5	63
38	Mechanisms of kinetic stabilization by the drugs paclitaxel and vinblastine. Molecular Biology of the Cell, 2017, 28, 1238-1257.	0.9	61
39	Microtubule assembly dynamics: new insights at the nanoscale. Current Opinion in Cell Biology, 2008, 20, 64-70.	2.6	57
40	Kinesin-8 molecular motors: putting the brakes on chromosome oscillations. Trends in Cell Biology, 2008, 18, 307-310.	3.6	55
41	Cell-Length-Dependent Microtubule Accumulation during Polarization. Current Biology, 2010, 20, 979-988.	1.8	55
42	Microtubule Tip Tracking and Tip Structures at the Nanometer Scale Using Digital Fluorescence Microscopy. Cellular and Molecular Bioengineering, 2011, 4, 192-204.	1.0	55
43	Estimation of the diffusion-limited rate of microtubule assembly. Biophysical Journal, 1997, 73, 88-96.	0.2	54
44	Model for Protein Concentration Gradients in the Cytoplasm. Cellular and Molecular Bioengineering, 2008, 1, 84-92.	1.0	53
45	Analysis of radiation forces in laser trapping and laser-guided direct writing applications. IEEE Journal of Quantum Electronics, 2002, 38, 131-141.	1.0	48
46	Dimensionless parameters for the design of optical traps and laser guidance systems. Applied Optics, 2004, 43, 3999.	2.1	47
47	Cell Patterning on Biological Gels via Cell Spraying through a Mask. Tissue Engineering, 2005, 11, 701-708.	4.9	47
48	Brownian Dynamics of Subunit Addition-Loss Kinetics and Thermodynamics in Linear Polymer Self-Assembly. Biophysical Journal, 2013, 105, 2528-2540.	0.2	47
49	Dynamics of 3D carcinoma cell invasion into aligned collagen. Integrative Biology (United Kingdom), 2018, 10, 100-112.	0.6	46
50	Rapid diffusion-state switching underlies stable cytoplasmic gradients in the Caenorhabditis elegans zygote. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E8440-E8449.	3.3	46
51	Two-step cell patterning on planar and complex curved surfaces by precision spraying of polymers. Biotechnology and Bioengineering, 2006, 93, 919-927.	1.7	44
52	Cell Migration in 1D and 2D Nanofiber Microenvironments. Annals of Biomedical Engineering, 2018, 46, 392-403.	1.3	42
53	Measuring Nanometer Scale Gradients in Spindle Microtubule Dynamics Using Model Convolution Microscopy. Molecular Biology of the Cell, 2006, 17, 4069-4079.	0.9	40
54	Analysis of Microtubule Curvature. Methods in Cell Biology, 2007, 83, 237-268.	0.5	40

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55	Immunoaffinity purification: Basic principles and operational considerations. Biotechnology Advances, 1992, 10, 413-446.	6.0	39
56	Diffusion inside microtubules. European Biophysics Journal, 1998, 27, 514-520.	1.2	39
57	RCC1-dependent activation of Ran accelerates cell cycle and DNA repair, inhibiting DNA damageâ€“induced cell senescence. Molecular Biology of the Cell, 2016, 27, 1346-1357.	0.9	39
58	Myosin IIA suppresses glioblastoma development in a mechanically sensitive manner. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15550-15559.	3.3	39
59	Stochastic dynamics of the nerve growth cone and its microtubules during neurite outgrowth. , 2000, 50, 452-461.		38
60	Modeling cellular processes in 3D. Trends in Cell Biology, 2011, 21, 692-700.	3.6	38
61	Microtubule-Based Control of Motor-Clutch System Mechanics in Glioma Cell Migration. Cell Reports, 2018, 25, 2591-2604.e8.	2.9	37
62	Quantitative Analysis of Microtubule Self-assembly Kinetics and Tip Structure. Methods in Enzymology, 2014, 540, 35-52.	0.4	36
63	An Indoleâ€“Chalcone Inhibits Multidrug-Resistant Cancer Cell Growth by Targeting Microtubules. Molecular Pharmaceutics, 2018, 15, 3892-3900.	2.3	36
64	Glioma Cell Migration Dynamics in Brain Tissue Assessed by Multimodal Optical Imaging. Biophysical Journal, 2019, 117, 1179-1188.	0.2	34
65	Modeling of chromosome motility during mitosis. Current Opinion in Cell Biology, 2006, 18, 639-647.	2.6	33
66	Sleeping Beauty Insertional Mutagenesis Reveals Important Genetic Drivers of Central Nervous System Embryonal Tumors. Cancer Research, 2019, 79, 905-917.	0.4	33
67	Model Convolution: A Computational Approach to Digital Image Interpretation. Cellular and Molecular Bioengineering, 2010, 3, 163-170.	1.0	32
68	Slit-Robo GTPase-Activating Protein 2 as a metastasis suppressor in osteosarcoma. Scientific Reports, 2016, 6, 39059.	1.6	32
69	Autocorrelation Function and Power Spectrum of Two-State Random Processes Used in Neurite Guidance. Biophysical Journal, 1998, 75, 1189-1196.	0.2	29
70	Ex vivo SARS-CoV-2 infection of human lung reveals heterogeneous host defense and therapeutic responses. JCI Insight, 2021, 6, .	2.3	26
71	Assessment of Transport Mechanisms Underlying the Bicoid Morphogen Gradient. Cellular and Molecular Bioengineering, 2011, 4, 116-121.	1.0	24
72	Time series characterization of simulated microtubule dynamics in the nerve growth cone. Annals of Biomedical Engineering, 1995, 23, 268-286.	1.3	23

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73	Modeling Cell Migration Mechanics. Advances in Experimental Medicine and Biology, 2018, 1092, 159-187.	0.8	22
74	Rapid and inefficient kinetics of sickle hemoglobin fiber growth. Science Advances, 2019, 5, eaau1086.	4.7	21
75	Predicting Confined 1D Cell Migration from Parameters Calibrated to a 2D Motor-Clutch Model. Biophysical Journal, 2020, 118, 1709-1720.	0.2	20
76	Hypothesis testing via integrated computer modeling and digital fluorescence microscopy. Methods, 2007, 41, 232-237.	1.9	19
77	Optical Control of Microtubule Dynamics in Time and Space. Cell, 2015, 162, 243-245.	13.5	19
78	Microtubule dynamics: moving toward a multi-scale approach. Current Opinion in Cell Biology, 2018, 50, 8-13.	2.6	19
79	Emerging technologies in mechanotransduction research. Current Opinion in Chemical Biology, 2019, 53, 125-130.	2.8	19
80	Vaccination Against SARS-CoV-2 Is Associated With a Lower Viral Load and Likelihood of Systemic Symptoms. Open Forum Infectious Diseases, 2022, 9, ofac066.	0.4	17
81	Robust Micromechanical Neurite Elicitation in Synapse-Competent Neurons Via Magnetic Bead Force Application. Annals of Biomedical Engineering, 2005, 33, 1229-1237.	1.3	16
82	A Brownian dynamics tumor progression simulator with application to glioblastoma. Convergent Science Physical Oncology, 2018, 4, 015001.	2.6	16
83	Multiscale Computational Modeling of Tubulin-Tubulin Lateral Interaction. Biophysical Journal, 2019, 117, 1234-1249.	0.2	16
84	Stochastic Modeling Yields a Mechanistic Framework for Spindle Attachment Error Correction in Budding Yeast Mitosis. Cell Systems, 2017, 4, 645-650.e5.	2.9	15
85	Getting Cells and Tissues into Shape. Cell, 2011, 144, 325-326.	13.5	14
86	SEMA4C is a novel target to limit osteosarcoma growth, progression, and metastasis. Oncogene, 2020, 39, 1049-1062.	2.6	13
87	Kinetic partitioning during de novo septin filament assembly creates a critical G1 â€œwindow of opportunityâ€•for mutant septin function. Cell Cycle, 2016, 15, 2441-2453.	1.3	12
88	Tau Avoids the GTP Cap at Growing Microtubule Plus-Ends. IScience, 2020, 23, 101782.	1.9	12
89	Laser-guided direct writing of living cells. Biotechnology and Bioengineering, 2000, 67, 312.	1.7	12
90	Dystrophin missense mutations alter focal adhesion tension and mechanotransduction. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	12

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91	Mitosis, Diffusible Crosslinkers, and the Ideal Gas Law. Cell, 2015, 160, 1041-1043.	13.5	11
92	Physical limits on kinesin-5â€“mediated chromosome congression in the smallest mitotic spindles. Molecular Biology of the Cell, 2015, 26, 3999-4014.	0.9	11
93	Monte Carlo simulations of microtubule arrays: The critical roles of rescue transitions, the cell boundary, and tubulin concentration in shaping microtubule distributions. PLoS ONE, 2018, 13, e0197538.	1.1	10
94	A molecular clock controls periodically driven cell migration in confined spaces. Cell Systems, 2022, 13, 514-529.e10.	2.9	10
95	Dam1 complexes go it alone on disassembling microtubules. Nature Cell Biology, 2008, 10, 379-381.	4.6	9
96	A Micro-tool for Mechanical Manipulation of in vitro Cell Arrays. Biomedical Microdevices, 2003, 5, 291-295.	1.4	8
97	Stochastic simulation and graphic visualization of mitotic processes. Methods, 2010, 51, 251-256.	1.9	8
98	Modeling distributed forces within cell adhesions of varying size on continuous substrates. Cytoskeleton, 2019, 76, 571-585.	1.0	7
99	Science+dance=bodystorming. Trends in Cell Biology, 2012, 22, 613-616.	3.6	6
100	Kinesin-5 Mediated Chromosome Congression in Insect Spindles. Cellular and Molecular Bioengineering, 2018, 11, 25-36.	1.0	6
101	Mitotic Spindle: Disturbing a Subtle Balance. Current Biology, 2005, 15, R956-R959.	1.8	5
102	The predicted role of steric specificity in crowding-mediated effects on reversible biomolecular association. Physical Biology, 2015, 12, 066004.	0.8	5
103	Chromosome Capture: Take Me to Your Kinetochore. Current Biology, 2005, 15, R328-R330.	1.8	4
104	Education and Outreach in Physical Sciences in Oncology. Trends in Cancer, 2021, 7, 3-9.	3.8	4
105	Clinically validated model predicts the effect of intratumoral heterogeneity on overall survival for non-small cell lung cancer (NSCLC) patients. Computer Methods and Programs in Biomedicine, 2021, 212, 106455.	2.6	4
106	Atomistic Basis of Microtubule Dynamic Instability Assessed Via Multiscale Modeling. Annals of Biomedical Engineering, 2021, 49, 1716-1734.	1.3	3
107	<title>Nano- and microscale manipulation of biological particles by laser-guided direct writing</title>. , 2002, 4608, 245.		2
108	Predicting Glioblastoma Cellular Motility from In Vivo MRI with a Radiomics Based Regression Model. Cancers, 2022, 14, 578.	1.7	2

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109	A microtool for in vitro cell array manipulation. , 0, , .		1
110	Cellular and Molecular Bioengineering: Editorial Perspective. Cellular and Molecular Bioengineering, 2008, 1, 4-4.	1.0	1
111	Multi-Scale Computational Modeling of Tubulin-Tubulin Interactions in Microtubule Self-Assembly from Atoms to Cells. Biophysical Journal, 2019, 116, 256a.	0.2	1
112	Laser-guided direct writing of living cells. , 2000, 67, 312.		1
113	Abstract A03: A brain cancer cell migration simulator based on a motor-clutch model. , 2015, , .		1
114	Asymmetric Division: Motor Persistence Pays off. Current Biology, 2006, 16, R1021-R1023.	1.8	0
115	Microtubule Bending and Breaking in Cellular Mechanotransduction. , 0, , 234-249.		0
116	Outstanding Papers from the 2009 Biomedical Engineering Society (BMES) Annual Meeting. Cellular and Molecular Bioengineering, 2009, 2, 463-463.	1.0	0
117	Modeling of Motor Mediated Microtubule Bending. Biophysical Journal, 2009, 96, 572a.	0.2	0
118	Highly Variable Microtubule Assembly Dynamics Reflect Near-Kilohertz Kinetics: Evidence Against Traditional Linear Growth Theory. Biophysical Journal, 2010, 98, 363a.	0.2	0
119	Kinetics of Microtubule Assembly. Biophysical Journal, 2011, 100, 530a-531a.	0.2	0
120	Outstanding Papers in Cellular and Molecular Bioengineering from the 2011 Biomedical Engineering Society Annual Meeting. Cellular and Molecular Bioengineering, 2012, 5, 127-127.	1.0	0
121	BMES Editorial. Cellular and Molecular Bioengineering, 2013, 6, 119-119.	1.0	0
122	Introduction to the Special Issue Dedicated to the Memory of Alan J. Hunt. Cellular and Molecular Bioengineering, 2013, 6, 355-355.	1.0	0
123	A Brief Scientific Biography of Prof. Alan J. Hunt. Cellular and Molecular Bioengineering, 2013, 6, 356-360.	1.0	0
124	Optimality of Force Transmission in a Motor-Clutch Cellular Adhesion Model. Biophysical Journal, 2014, 106, 243a.	0.2	0
125	Regulation of Actin Filament Turnover in Brain Tumor Cell Motility. Biophysical Journal, 2014, 106, 359a.	0.2	0
126	Molecular Regulation of Actin Turnover at the Leading Edge of Migrating Cells. Biophysical Journal, 2015, 108, 179a-180a.	0.2	0

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127	Finite Element Modeling of Cell Traction. Biophysical Journal, 2015, 108, 306a.	0.2	0
128	Computational Modeling of Tubulin-Tubulin Lateral Interaction: Molecular Dynamics and Brownian Dynamics. Biophysical Journal, 2018, 114, 503a.	0.2	0
129	Motor Clutch Modeling of Single-Molecule FRET-Based Molecular Tension Sensors. Biophysical Journal, 2019, 116, 415a.	0.2	0
130	A Physical Perspective on Oncology Research: The Critically Emerging Role of Physical Science in the Fight Against Brain Cancer. Advances in Oncology, 2021, 1, 213-221.	0.1	0