Dimitrios Vavylonis

List of Publications by Year
in descending order

68 papers	2,898 citations	257450 24 h-index	197818 49 g-index
83 all docs	83 docs citations	83 times ranked	2746 citing authors

#	Article	IF	Citations
1	An interview with Dimitrios Vavylonis, Lehigh University, Bethlehem, <scp>PA</scp>, <scp>USA</scp>. Cytoskeleton, 2022, 79, 3-4.	2.0	0
2	Reconstitution of contractile actomyosin rings in vesicles. Nature Communications, 2021, 12, 2254.	12.8	74
3	Cell patterning by secretion-induced plasma membrane flows. Science Advances, 2021, 7, eabg6718.	10.3	20
4	Cdc42 GTPase-activating proteins (GAPs) regulate generational inheritance of cell polarity and cell shape in fission yeast. Molecular Biology of the Cell, 2021, 32, ar14.	2.1	4
5	Rounding Out the Understanding of ACD Toxicity with the Discovery of Cyclic Forms of Actin Oligomers. International Journal of Molecular Sciences, 2021, 22, 718.	4.1	6
6	Discrete mechanical model of lamellipodial actin network implements molecular clutch mechanism and generates arcs and microspikes. PLoS Computational Biology, 2021, 17, e1009506.	3.2	9
7	Insights into Actin Polymerization and Nucleation Using a Coarse-Grained Model. Biophysical Journal, 2020, 119, 553-566.	0.5	10
8	Fission Yeast Polarization: Modeling Cdc42 Oscillations, Symmetry Breaking, and Zones of Activation and Inhibition. Cells, 2020, 9, 1769.	4.1	8
9	Disentangling loosening from softening: insights into primary cell wall structure. Plant Journal, 2019, 100, 1101-1117.	5.7	96
10	Organization of associating or crosslinked actin filaments in confinement. Cytoskeleton, 2019, 76, 532-548.	2.0	15
11	Lamellipodium tip actin barbed ends serve as a force sensor. Genes To Cells, 2019, 24, 705-718.	1.2	13
12	Automated Tracking of Biopolymer Growth and Network Deformation with TSOAX. Scientific Reports, 2019, 9, 1717.	3.3	12
13	A special issue on discrete modeling of the cytoskeleton. Cytoskeleton, 2019, 76, 493-494.	2.0	0
14	Convection-Induced Biased Distribution of Actin Probes in Live Cells. Biophysical Journal, 2019, 116, 142-150.	0.5	12
15	Actin Cross-Linking Toxin Is a Universal Inhibitor of Tandem-Organized and Oligomeric G-Actin Binding Proteins. Current Biology, 2018, 28, 1536-1547.e9.	3.9	20
16	Building a dendritic actin filament network branch by branch: models of filament orientation pattern and force generation in lamellipodia. Biophysical Reviews, 2018, 10, 1577-1585.	3.2	19
17	Lamellipodia in Stationary and Fluctuating States. Modeling and Simulation in Science, Engineering and Technology, 2018, , 211-258.	0.6	0
18	Exploration and stabilization of Ras1 mating zone: A mechanism with positive and negative feedbacks. PLoS Computational Biology, 2018, 14, e1006317.	3.2	16

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19	Multiscale Model of the Formin Homology 1 Domain Illustrates its Role in Regulation of Actin Polymerization. Biophysical Journal, 2018, 114, 144a.	0.5	0
20	Computational modeling highlights the role of the disordered Formin Homology 1 domain in profilinâ€actin transfer. FEBS Letters, 2018, 592, 1804-1816.	2.8	21
21	Myosin-dependent actin stabilization as revealed by single-molecule imaging of actin turnover. Molecular Biology of the Cell, 2018, 29, 1941-1947.	2.1	26
22	Nanoscale movements of cellulose microfibrils in primary cell walls. Nature Plants, 2017, 3, 17056.	9.3	121
23	Cell Biology: Capturing Forminâ€™s Mechano-Inhibition. Current Biology, 2017, 27, R1078-R1080.	3.9	3
24	Cell protrusion and retraction driven by fluctuations in actin polymerization: A twoâ€dimensional model. Cytoskeleton, 2017, 74, 490-503.	2.0	15
25	Actin biophysics in the tradition of Fumio Oosawa: A special issue with contributions from participants at the 2016 â€œNow in Actinâ€• meeting in Nagoya. Cytoskeleton, 2017, 74, 445.	2.0	0
26	Model of turnover kinetics in the lamellipodium: implications of slow- and fast- diffusing capping protein and Arp2/3 complex. Physical Biology, 2016, 13, 066009.	1.8	11
27	Local Pheromone Release from Dynamic Polarity Sites Underlies Cell-Cell Pairing during Yeast Mating. Current Biology, 2016, 26, 1117-1125.	3.9	47
28	ER-PM Contacts Define Actomyosin Kinetics for Proper Contractile Ring Assembly. Current Biology, 2016, 26, 647-653.	3.9	24
29	SOAX: A software for quantification of 3D biopolymer networks. Scientific Reports, 2015, 5, 9081.	3.3	92
30	Computational model of polarized actin cables and cytokinetic actin ring formation in budding yeast. Cytoskeleton, 2015, 72, 517-533.	2.0	11
31	Formation of contractile networks and fibers in the medial cell cortex through myosinâ€II turnover, contraction, and stressâ€stabilization. Cytoskeleton, 2015, 72, 29-46.	2.0	6
32	ACD toxinâ€“produced actin oligomers poison formin-controlled actin polymerization. Science, 2015, 349, 535-539.	12.6	46
33	Two Functionally Distinct Sources of Actin Monomers Supply the Leading Edge of Lamellipodia. Cell Reports, 2015, 11, 433-445.	6.4	69
34	Spontaneous Cdc42 Polarization Independent of GDI-Mediated Extraction and Actin-Based Trafficking. PLoS Biology, 2015, 13, e1002097.	5.6	107
35	Dynamic Network Morphology and Tension Buildup in a 3D Model of Cytokinetic Ring Assembly. Biophysical Journal, 2014, 107, 2618-2628.	0.5	43
36	New single-molecule speckle microscopy reveals modification of the retrograde actin flow by focal adhesions at nanometer scales. Molecular Biology of the Cell, 2014, 25, 1010-1024.	2.1	44

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37	3D actin network centerline extraction with multiple active contours. Medical Image Analysis, 2014, 18, 272-284.	11.6	50
38	Actin cable distribution and dynamics arising from cross-linking, motor pulling, and filament turnover. Molecular Biology of the Cell, 2014, 25, 3006-3016.	2.1	28
39	Distributed Actin Turnover in the Lamellipodium and FRAP Kinetics. Biophysical Journal, 2013, 104, 247-257.	0.5	41
40	Molecular viewing of actin polymerizing actions and beyond: Combination analysis of singleâ€molecule speckle microscopy with modeling, FRAP and sâ€FDAP (sequential fluorescence decay after) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 617 T	1.5	6
41	Model of Fission Yeast Cell Shape Driven by Membrane-Bound Growth Factors and the Cytoskeleton. PLoS Computational Biology, 2013, 9, e1003287.	3.2	32
42	Image Analysis Tools to Quantify Cell Shape and Protein Dynamics near the Leading Edge. Cell Structure and Function, 2013, 38, 1-7.	1.1	12
43	Î±-Actinin and fimbrin cooperate with myosin II to organize actomyosin bundles during contractile-ring assembly. Molecular Biology of the Cell, 2012, 23, 3094-3110.	2.1	84
44	Oscillatory Dynamics of Cdc42 GTPase in the Control of Polarized Growth. Science, 2012, 337, 239-243.	12.6	148
45	Excitable Actin Dynamics in Lamellipodial Protrusion and Retraction. Biophysical Journal, 2012, 102, 1493-1502.	0.5	74
46	Stress Fiber Organization and Dynamics in Cells Adhered to Substrates of Varying Stiffness. Biophysical Journal, 2012, 102, 694a.	0.5	0
47	A review of models of fluctuating protrusion and retraction patterns at the leading edge of motile cells. Cytoskeleton, 2012, 69, 195-206.	2.0	51
48	A Systems-Biology Approach to Yeast Actin Cables. Advances in Experimental Medicine and Biology, 2012, 736, 325-335.	1.6	2
49	Interactive, Computer-Assisted Tracking of Speckle Trajectories in Fluorescence Microscopy: Application to Actin Polymerization and Membrane Fusion. Biophysical Journal, 2011, 101, 1794-1804.	0.5	77
50	Segmentation and Tracking of Cytoskeletal Filaments Using Open Active Contours. Biophysical Journal, 2011, 100, 445a.	0.5	1
51	Model of myosin node aggregation into a contractile ring: the effect of local alignment. Journal of Physics Condensed Matter, 2011, 23, 374103.	1.8	21
52	Extraction and analysis of actin networks based on Open Active Contour models. , 2011, 2011, 1334-1340.		18
53	Segmentation and tracking of cytoskeletal filaments using open active contours. Cytoskeleton, 2010, 67, 693-705.	2.0	179
54	Kinetics of Myosin Node Aggregation into a Contractile Ring. Physical Review Letters, 2010, 105, 048102.	7.8	10

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55	Cytoskeletal dynamics in fission yeast: A review of models for polarization and division. HFSP Journal, 2010, 4, 122-130.	2.5	17
56	Automated actin filament segmentation, tracking and tip elongation measurements based on open active contour models. , 2009, 2009, 1302-1305.		40
57	Actin Filament Tracking Based on Particle Filters and Stretching Open Active Contour Models. Lecture Notes in Computer Science, 2009, 12, 673-681.	1.3	19
58	Assembly Mechanism of the Contractile Ring for Cytokinesis by Fission Yeast. Science, 2008, 319, 97-100.	12.6	346
59	Model of For3p-Mediated Actin Cable Assembly in Fission Yeast. PLoS ONE, 2008, 3, e4078.	2.5	23
60	Molecular basis of cytokinesis in fission yeast. FASEB Journal, 2008, 22, 115.2.	0.5	0
61	Polymerization kinetics of ADP- and ADP-Pi-actin determined by fluorescence microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8827-8832.	7.1	192
62	Model of Formin-Associated Actin Filament Elongation. Molecular Cell, 2006, 21, 455-466.	9.7	174
63	Actin polymerization kinetics, cap structure, and fluctuations. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 8543-8548.	7.1	121
64	Pulsed Laser Polymerization at Low Conversions: Broadening and Chain Transfer Effects. Macromolecular Theory and Simulations, 2003, 12, 401-412.	1.4	6
65	The Ultrasensitivity of Living Polymers. Physical Review Letters, 2003, 90, 118301.	7.8	12
66	Interfacial Reactions: Mixed Order Kinetics and Segregation Effects. Physical Review Letters, 2000, 84, 3193-3196.	7.8	19
67	Reactive Polymer Interfaces:Â How Reaction Kinetics Depend on Reactivity and Density of Chemical Groups. Macromolecules, 1999, 32, 1785-1796.	4.8	56
68	A mechanism with severing near barbed ends and annealing explains structure and dynamics of dendritic actin networks. ELife, 0, 11, .	6.0	4