Dimitrios Vavylonis

List of Publications by Year in Descending Order

64 papers	2,098 citations	24 h-index	45 g-index
83 ext. papers	2,646 ext. citations	5.9 avg, IF	5 L-index

#	Paper	IF	Citations
64	Discrete mechanical model of lamellipodial actin network implements molecular clutch mechanism and generates arcs and microspikes. *PLoS Computational Biology*, **2021**, 17, e1009506	5	1
63	Reconstitution of contractile actomyosin rings in vesicles. *Nature Communications*, **2021**, 12, 2254	17.4	19
62	Cell patterning by secretion-induced plasma membrane flows. *Science Advances*, **2021**, 7, eabg6718	14.3	4
61	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	3.5	1
60	Insights into Actin Polymerization and Nucleation Using a Coarse-Grained Model. *Biophysical Journal*, **2020**, 119, 553-566	2.9	3
59	Fission Yeast Polarization: Modeling Cdc42 Oscillations, Symmetry Breaking, and Zones of Activation and Inhibition. *Cells*, **2020**, 9,	7.9	4
58	Organization of associating or crosslinked actin filaments in confinement. *Cytoskeleton*, **2019**, 76, 532-548	2.4	7
57	Lamellipodium tip actin barbed ends serve as a force sensor. *Genes To Cells*, **2019**, 24, 705-718	2.3	4
56	Automated Tracking of Biopolymer Growth and Network Deformation with TSOAX. *Scientific Reports*, **2019**, 9, 1717	4.9	2
55	Disentangling loosening from softening: insights into primary cell wall structure. *Plant Journal*, **2019**, 100, 1101-1117	6.9	42
54	Convection-Induced Biased Distribution of Actin Probes in Live Cells. *Biophysical Journal*, **2019**, 116, 142-150	3.9	7
53	Actin Cross-Linking Toxin Is a Universal Inhibitor of Tandem-Organized and Oligomeric G-Actin Binding Proteins. *Current Biology*, **2018**, 28, 1536-1547.e9	6.3	11
52	Computational modeling highlights the role of the disordered Formin Homology 1 domain in profilin-actin transfer. *FEBS Letters*, **2018**, 592, 1804-1816	3.8	10
51	Myosin-dependent actin stabilization as revealed by single-molecule imaging of actin turnover. *Molecular Biology of the Cell*, **2018**, 29, 1941-1947	3.5	14
50	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	3.7	8
49	Lamellipodia in Stationary and Fluctuating States. *Modeling and Simulation in Science, Engineering and Technology*, **2018**, 211-258	0.8	
48	Exploration and stabilization of Ras1 mating zone: A mechanism with positive and negative feedbacks. *PLoS Computational Biology*, **2018**, 14, e1006317	5	10

47	Nanoscale movements of cellulose microfibrils in primary cell walls. *Nature Plants*, **2017**, 3, 17056	11.5	79
46	Cell Biology: Capturing Formin3 Mechano-Inhibition. *Current Biology*, **2017**, 27, R1078-R1080	6.3	2
45	Cell protrusion and retraction driven by fluctuations in actin polymerization: A two-dimensional model. *Cytoskeleton*, **2017**, 74, 490-503	2.4	11
44	Actin biophysics in the tradition of Fumio Oosawa: A special issue with contributions from participants at the 2016 "Now in Actin" meeting in Nagoya. *Cytoskeleton*, **2017**, 74, 445	2.4	
43	Local Pheromone Release from Dynamic Polarity Sites Underlies Cell-Cell Pairing during Yeast Mating. *Current Biology*, **2016**, 26, 1117-25	6.3	35
42	ER-PM Contacts Define Actomyosin Kinetics for Proper Contractile Ring Assembly. *Current Biology*, **2016**, 26, 647-53	6.3	15
41	Model of turnover kinetics in the lamellipodium: implications of slow- and fast- diffusing capping protein and Arp2/3 complex. *Physical Biology*, **2016**, 13, 066009	3	6
40	ACTIN-DIRECTED TOXIN. ACD toxin-produced actin oligomers poison formin-controlled actin polymerization. *Science*, **2015**, 349, 535-9	33.3	31
39	Two functionally distinct sources of actin monomers supply the leading edge of lamellipodia. *Cell Reports*, **2015**, 11, 433-45	10.6	43
38	Spontaneous Cdc42 polarization independent of GDI-mediated extraction and actin-based trafficking. *PLoS Biology*, **2015**, 13, e1002097	9.7	85
37	SOAX: a software for quantification of 3D biopolymer networks. *Scientific Reports*, **2015**, 5, 9081	4.9	50
36	Computational model of polarized actin cables and cytokinetic actin ring formation in budding yeast. *Cytoskeleton*, **2015**, 72, 517-33	2.4	8
35	Formation of contractile networks and fibers in the medial cell cortex through myosin-II turnover, contraction, and stress-stabilization. *Cytoskeleton*, **2015**, 72, 29-46	2.4	4
34	3D actin network centerline extraction with multiple active contours. *Medical Image Analysis*, **2014**, 18, 272-84	15.4	35
33	Actin cable distribution and dynamics arising from cross-linking, motor pulling, and filament turnover. *Molecular Biology of the Cell*, **2014**, 25, 3006-16	3.5	18
32	Dynamic network morphology and tension buildup in a 3D model of cytokinetic ring assembly. *Biophysical Journal*, **2014**, 107, 2618-28	2.9	35
31	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, 1010-24	3.5	32
30	Distributed actin turnover in the lamellipodium and FRAP kinetics. *Biophysical Journal*, **2013**, 104, 247-57	2.9	27

29	Molecular viewing of actin polymerizing actions and beyond: combination analysis of single-molecule speckle microscopy with modeling, FRAP and s-FDAP (sequential fluorescence decay after photoactivation). *Development Growth and Differentiation*, **2013**, 55, 508-14	3	6
28	Model of fission yeast cell shape driven by membrane-bound growth factors and the cytoskeleton. *PLoS Computational Biology*, **2013**, 9, e1003287	5	28
27	Image analysis tools to quantify cell shape and protein dynamics near the leading edge. *Cell Structure and Function*, **2013**, 38, 1-7	2.2	9
26	Excitable actin dynamics in lamellipodial protrusion and retraction. *Biophysical Journal*, **2012**, 102, 1493-502	3.7	65
25	A review of models of fluctuating protrusion and retraction patterns at the leading edge of motile cells. *Cytoskeleton*, **2012**, 69, 195-206	2.4	42
24	Actinin and fimbrin cooperate with myosin II to organize actomyosin bundles during contractile-ring assembly. *Molecular Biology of the Cell*, **2012**, 23, 3094-110	3.5	67
23	Oscillatory dynamics of Cdc42 GTPase in the control of polarized growth. *Science*, **2012**, 337, 239-43	33.3	119
22	A systems-biology approach to yeast actin cables. *Advances in Experimental Medicine and Biology*, **2012**, 736, 325-35	3.6	2
21	Interactive, computer-assisted tracking of speckle trajectories in fluorescence microscopy: application to actin polymerization and membrane fusion. *Biophysical Journal*, **2011**, 101, 1794-804	2.9	68
20	Model of myosin node aggregation into a contractile ring: the effect of local alignment. *Journal of Physics Condensed Matter*, **2011**, 23, 374103	1.8	18
19	EXTRACTION AND ANALYSIS OF ACTIN NETWORKS BASED ON OPEN ACTIVE CONTOUR MODELS **2011**, 2011, 1334-1340	1.5	13
18	Kinetics of myosin node aggregation into a contractile ring. *Physical Review Letters*, **2010**, 105, 048102	7.4	10
17	Cytoskeletal dynamics in fission yeast: a review of models for polarization and division. *HFSP Journal*, **2010**, 4, 122-30		15
16	Segmentation and tracking of cytoskeletal filaments using open active contours. *Cytoskeleton*, **2010**, 67, 693-705	2.4	124
15	AUTOMATED ACTIN FILAMENT SEGMENTATION, TRACKING AND TIP ELONGATION MEASUREMENTS BASED ON OPEN ACTIVE CONTOUR MODELS **2009**, 2009, 1302-1305	1.5	24
14	Actin filament tracking based on particle filters and stretching open active contour models. *Lecture Notes in Computer Science*, **2009**, 12, 673-81	0.9	10
13	Assembly mechanism of the contractile ring for cytokinesis by fission yeast. *Science*, **2008**, 319, 97-100	33.3	294
12	Model of For3p-mediated actin cable assembly in fission yeast. *PLoS ONE*, **2008**, 3, e4078	3.7	20

List of Publications

11	Molecular basis of cytokinesis in fission yeast. *FASEB Journal*, **2008**, 22, 115.2	0.9	
10	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, 8827-32	11.5	150
9	Model of formin-associated actin filament elongation. *Molecular Cell*, **2006**, 21, 455-66	17.6	144
8	Actin polymerization kinetics, cap structure, and fluctuations. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 8543-8	11.5	105
7	Pulsed Laser Polymerization at Low Conversions: Broadening and Chain Transfer Effects. *Macromolecular Theory and Simulations*, **2003**, 12, 401-412	1.5	6
6	The ultrasensitivity of living polymers. *Physical Review Letters*, **2003**, 90, 118301	7.4	12
5	Interfacial reactions: mixed order kinetics and segregation effects. *Physical Review Letters*, **2000**, 84, 3193-6	7.4	19
4	Reactive Polymer Interfaces:How Reaction Kinetics Depend on Reactivity and Density of Chemical Groups. *Macromolecules*, **1999**, 32, 1785-1796	5.5	56
3	Cdc42 GTPase Activating Proteins (GAPs) Maintain Generational Inheritance of Cell Polarity and Cell Shape in Fission Yeast		1
2	Reconstitution of contractile actomyosin rings in vesicles		5
1	Cell patterning by secretion-induced plasma membrane flows		1