Orion David Weiner

List of Publications by Year
in descending order

74 papers	10,008 citations	66343 42 h-index	102487 66 g-index
85 all docs	85 docs citations	85 times ranked	9861 citing authors

#	Article	IF	Citations
1	Spatiotemporal control of cell signalling using a light-switchable protein interaction. Nature, 2009, 461, 997-1001.	27.8	902
2	Polarization of Chemoattractant Receptor Signaling During Neutrophil Chemotaxis. Science, 2000, 287, 1037-1040.	12.6	833
3	Membrane Tension Maintains Cell Polarity by Confining Signals to the Leading Edge during Neutrophil Migration. Cell, 2012, 148, 175-188.	28.9	490
4	Use the force: membrane tension as an organizer of cell shape and motility. Trends in Cell Biology, 2013, 23, 47-53.	7.9	485
5	A PtdInsP3- and Rho GTPase-mediated positive feedback loop regulates neutrophil polarity. Nature Cell Biology, 2002, 4, 509-513.	10.3	480
6	Using Optogenetics to Interrogate the Dynamic Control of Signal Transmission by the Ras/Erk Module. Cell, 2013, 155, 1422-1434.	28.9	476
7	Lipid products of PI(3)Ks maintain persistent cell polarity and directed motility in neutrophils. Nature Cell Biology, 2002, 4, 513-518.	10.3	440
8	An Actin-Based Wave Generator Organizes Cell Motility. PLoS Biology, 2007, 5, e221.	5.6	371
9	An optogenetic gene expression system with rapid activation and deactivation kinetics. Nature Chemical Biology, 2014, 10, 196-202.	8.0	317
10	Illuminating cell signalling with optogenetic tools. Nature Reviews Molecular Cell Biology, 2014, 15, 551-558.	37.0	317
11	Sequence-Dependent Sorting of Recycling Proteins by Actin-Stabilized Endosomal Microdomains. Cell, 2010, 143, 761-773.	28.9	289
12	Leukocytes navigate by compass: roles of PI3KÎ³ and its lipid products. Trends in Cell Biology, 2000, 10, 466-473.	7.9	276
13	Regulation of cell polarity during eukaryotic chemotaxis: the chemotactic compass. Current Opinion in Cell Biology, 2002, 14, 196-202.	5.4	266
14	Light-based feedback for controlling intracellular signaling dynamics. Nature Methods, 2011, 8, 837-839.	19.0	249
15	Spatial control of actin polymerization during neutrophil chemotaxis. Nature Cell Biology, 1999, 1, 75-81.	10.3	247
16	Dynamics of a Chemoattractant Receptor in Living Neutrophils during Chemotaxis. Molecular Biology of the Cell, 1999, 10, 1163-1178.	2.1	221
17	Live-cell imaging reveals enhancer-dependent Sox2 transcription in the absence of enhancer proximity. ELife, 2019, 8, .	6.0	220
18	The promise of optogenetics in cell biology: interrogating molecular circuits in space and time. Nature Methods, 2011, 8, 35-38.	19.0	218

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19	Enteropathogenic E. coli acts through WASP and Arp2/3 complex to form actin pedestals. Nature Cell Biology, 1999, 1, 389-391.	10.3	198
20	PIP3, PIP2, and Cell Movementâ€"Similar Messages, Different Meanings?. Developmental Cell, 2001, 1, 743-747.	7.0	176
21	Membrane Tension Acts Through PLD2 and mTORC2 to Limit Actin Network Assembly During Neutrophil Migration. PLoS Biology, 2016, 14, e1002474.	5.6	172
22	Hem-1 Complexes Are Essential for Rac Activation, Actin Polymerization, and Myosin Regulation during Neutrophil Chemotaxis. PLoS Biology, 2006, 4, e38.	5.6	154
23	A naturally monomeric infrared fluorescent protein for protein labeling in vivo. Nature Methods, 2015, 12, 763-765.	19.0	146
24	Cell polarity: A chemical compass. Nature, 2002, 419, 21-21.	27.8	119
25	Synthetic control of mammalian-cell motility by engineering chemotaxis to an orthogonal bioinert chemical signal. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5896-5901.	7.1	95
26	Reversible Optogenetic Control of Subcellular Protein Localization in a Live Vertebrate Embryo. Developmental Cell, 2016, 36, 117-126.	7.0	95
27	Rac1 links leading edge and uropod events through Rho and myosin activation during chemotaxis. Blood, 2006, 108, 2814-2820.	1.4	94
28	A light-inducible organelle-targeting system for dynamically activating and inactivating signaling in budding yeast. Molecular Biology of the Cell, 2013, 24, 2419-2430.	2.1	90
29	Cell stimulation with optically manipulated microsources. Nature Methods, 2009, 6, 905-909.	19.0	89
30	Two distinct functions for PI3-kinases in macropinocytosis. Journal of Cell Science, 2013, 126, 4296-307.	2.0	83
31	A pharmacological cocktail for arresting actin dynamics in living cells. Molecular Biology of the Cell, 2011, 22, 3986-3994.	2.1	80
32	Manipulation of Neutrophil-Like HL-60 Cells for the Study of Directed Cell Migration. Methods in Molecular Biology, 2010, 591, 147-158.	0.9	73
33	Light-based tuning of ligand half-life supports kinetic proofreading model of T cell signaling. ELife, 2019, 8, .	6.0	70
34	In pursuit of the mechanics that shape cell surfaces. Nature Physics, 2018, 14, 648-652.	16.7	68
35	TAEL: A zebrafish-optimized optogenetic gene expression system with fine spatial and temporal control. Development (Cambridge), 2017, 144, 345-355.	2.5	67
36	Self-organization of protrusions and polarity during eukaryotic chemotaxis. Current Opinion in Cell Biology, 2014, 30, 60-67.	5.4	64

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37	A module for Rac temporal signal integration revealed with optogenetics. Journal of Cell Biology, 2017, 216, 2515-2531.	5.2	61
38	Neutrophils Establish Rapid and Robust WAVE Complex Polarity in an Actin-Dependent Fashion. Current Biology, 2009, 19, 253-259.	3.9	55
39	Diffusion, capture and recycling of SCAR/WAVE and Arp2/3 complexes observed in cells by single-molecule imaging. Journal of Cell Science, 2012, 125, 1165-1176.	2.0	55
40	Cell confinement reveals a branched-actin independent circuit for neutrophil polarity. PLoS Biology, 2019, 17, e3000457.	5.6	54
41	Light Control of Plasma Membrane Recruitment Using the Phyâ€"PIF System. Methods in Enzymology, 2011, 497, 409-423.	1.0	51
42	Nodal signaling regulates endodermal cell motility and actin dynamics via Rac1 and Prex1. Journal of Cell Biology, 2012, 198, 941-952.	5.2	51
43	Joining forces: crosstalk between biochemical signalling and physical forces orchestrates cellular polarity and dynamics. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170145.	4.0	51
44	How to Understand and Outwit Adaptation. Developmental Cell, 2014, 28, 607-616.	7.0	47
45	Network Crosstalk Dynamically Changes during Neutrophil Polarization. Cell, 2012, 149, 1073-1083.	28.9	46
46	Chemotaxis in Neutrophil-Like HL-60 Cells. Methods in Molecular Biology, 2009, 571, 167-177.	0.9	46
47	Identifying Network Motifs that Buffer Front-to-Back Signaling in Polarized Neutrophils. Cell Reports, 2013, 3, 1607-1616.	6.4	40
48	Myosin light chain kinase regulates cell polarization independently of membrane tension or Rho kinase. Journal of Cell Biology, 2015, 209, 275-288.	5.2	40
49	The WAVE complex associates with sites of saddle membrane curvature. Journal of Cell Biology, 2021, 220, .	5.2	36
50	Rac Activation: P-Rex1 â€" A Convergence Point for PIP3 and GÎ²Î³?. Current Biology, 2002, 12, R429-R431.	3.9	34
51	Probing Yeast Polarity with Acute, Reversible, Optogenetic Inhibition of Protein Function. ACS Synthetic Biology, 2015, 4, 1077-1085.	3.8	34
52	Medium weight neurofilament mRNA in goldfish Mauthner axoplasm. Neuroscience Letters, 1996, 213, 83-86.	2.1	33
53	How should we be selecting our graduate students?. Molecular Biology of the Cell, 2014, 25, 429-430.	2.1	31
54	GÎ² Regulates Coupling between Actin Oscillators for Cell Polarity and Directional Migration. PLoS Biology, 2016, 14, e1002381.	5.6	28

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55	WASP integrates substrate topology and cell polarity to guide neutrophil migration. Journal of Cell Biology, 2022, 221, .	5.2	28
56	Chick cranial neural crest cells use progressive polarity refinement, not contact inhibition of locomotion, to guide their migration. Developmental Biology, 2018, 444, S252-S261.	2.0	22
57	Homer3 regulates the establishment of neutrophil polarity. Molecular Biology of the Cell, 2015, 26, 1629-1639.	2.1	19
58	Clathrin Assembly Defines the Onset and Geometry of Cortical Patterning. Developmental Cell, 2017, 43, 507-521.e4.	7.0	18
59	Actin dynamics rapidly reset chemoattractant receptor sensitivity following adaptation in neutrophils. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20130008.	4.0	17
60	A size-invariant bud-duration timer enables robustness in yeast cell size control. PLoS ONE, 2018, 13, e0209301.	2.5	16
61	Nodal signaling has dual roles in fate specification and directed migration during germ layer segregation. Development (Cambridge), 2018, 145, .	2.5	11
62	The symphony of cell movement: how cells orchestrate diverse signals and forces to control migration. Current Opinion in Cell Biology, 2013, 25, 523-525.	5.4	9
63	Multiple sources of signal amplification within the B-cell Ras/MAPK pathway. Molecular Biology of the Cell, 2019, 30, 1610-1620.	2.1	9
64	Positioning the cleavage furrow: All you need is Rho. Journal of Cell Biology, 2016, 213, 605-607.	5.2	4
65	Response to Bell <i>et al.</i>. Molecular Biology of the Cell, 2014, 25, 1945-1945.	2.1	2
66	A Light-Based Feedback Control System for Generating User-Defined Intracelullar Signaling Dynamics. Biophysical Journal, 2012, 102, 41a.	0.5	1
67	Compete Globally, Bud Locally. Cell, 2009, 139, 656-658.	28.9	0
68	Cell Migration: Recoiling from an Embrace. Current Biology, 2015, 25, R566-R568.	3.9	0
69	Mechanical tension spatially restricts signals to the leading edge during neutrophil migration. FASEB Journal, 2012, 26, 345.3.	0.5	0
70	Dynamic information flow during neutrophil polarization. FASEB Journal, 2012, 26, 345.1.	0.5	0
71	A Size-invariant Bud-length Timer Enables Robustness in Yeast Cell Size Control. SSRN Electronic Journal, 0, , .	0.4	0
72	Optogenetic Tuning of Protein-protein Binding in Bilayers Using LOVTRAP. Bio-protocol, 2020, 10, e3745.	0.4	0

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73	Puff up to decide: the role of regulatory volume changes in neutrophil polarity and chemotaxis. Biophysical Journal, 2022, 121, 266a.	0.5	0
74	Molecular mechanism of formation of GPCR domains at the cell surface. Biophysical Journal, 2022, 121, 10a.	0.5	0