Eric Betzig

List of Publications by Year
in descending order

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82 papers	25,000 citations	32410 55 h-index	66518 82 g-index
98 all docs	98 docs citations	98 times ranked	28943 citing authors

#	Article	IF	Citations
1	Superresolution microscopy reveals actomyosin dynamics in medioapical arrays. Molecular Biology of the Cell, 2022, 33, mbcE21110537.	0.9	2
2	Cellular bases of olfactory circuit assembly revealed by systematic time-lapse imaging. Cell, 2021, 184, 5107-5121.e14.	13.5	25
3	De novo endocytic clathrin coats develop curvature at early stages of their formation. Developmental Cell, 2021, 56, 3146-3159.e5.	3.1	28
4	3D ATAC-PALM: super-resolution imaging of the accessible genome. Nature Methods, 2020, 17, 430-436.	9.0	62
5	Correlative three-dimensional super-resolution and block-face electron microscopy of whole vitreously frozen cells. Science, 2020, 367, .	6.0	255
6	High-resolution imaging reveals how the spindle midzone impacts chromosome movement. Journal of Cell Biology, 2019, 218, 2529-2544.	2.3	55
7	Software for lattice light-sheet imaging of FRET biosensors, illustrated with a new Rap1 biosensor. Journal of Cell Biology, 2019, 218, 3153-3160.	2.3	32
8	Augmin accumulation on long-lived microtubules drives amplification and kinetochore-directed growth. Journal of Cell Biology, 2019, 218, 2150-2168.	2.3	75
9	Dynamic super-resolution structured illumination imaging in the living brain. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 9586-9591.	3.3	103
10	Cytoskeletal Control of Antigen-Dependent T Cell Activation. Cell Reports, 2019, 26, 3369-3379.e5.	2.9	68
11	Cytoskeletal actin patterns shape mast cell activation. Communications Biology, 2019, 2, 93.	2.0	35
12	3D Deep Convolutional Neural Networks in Lattice Light-Sheet Data Puncta Segmentation. , 2019, , .		4
13	Cortical column and whole-brain imaging with molecular contrast and nanoscale resolution. Science, 2019, 363, .	6.0	277
14	Observing the cell in its native state: Imaging subcellular dynamics in multicellular organisms. Science, 2018, 360, .	6.0	420
15	Visualizing Intracellular Organelle and Cytoskeletal Interactions at Nanoscale Resolution on Millisecond Timescales. Cell, 2018, 175, 1430-1442.e17.	13.5	427
16	4D cell biology: big data image analytics and lattice light-sheet imaging reveal dynamics of clathrin-mediated endocytosis in stem cellâ€“derived intestinal organoids. Molecular Biology of the Cell, 2018, 29, 2959-2968.	0.9	42
17	Lamellar projections in the endolymphatic sac act as a relief valve to regulate inner ear pressure. ELife, 2018, 7, .	2.8	23
18	Actin dynamics and competition for myosin monomer govern the sequential amplification of myosin filaments. Nature Cell Biology, 2017, 19, 85-93.	4.6	96

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19	Zyxin regulates endothelial von Willebrand factor secretion by reorganizing actin filaments around exocytic granules. Nature Communications, 2017, 8, 14639.	5.8	37
20	Visualizing dynamic microvillar search and stabilization during ligand detection by T cells. Science, 2017, 356, .	6.0	225
21	Cytoskeletal actin dynamics shape a ramifying actin network underpinning immunological synapse formation. Science Advances, 2017, 3, e1603032.	4.7	143
22	Applying systems-level spectral imaging and analysis to reveal the organelle interactome. Nature, 2017, 546, 162-167.	13.7	828
23	Imaging Cellular Structure and Dynamics from Molecules to Organisms. Microscopy and Microanalysis, 2017, 23, 2-3.	0.2	1
24	Contractile actomyosin arcs promote the activation of primary mouse T cells in a ligand-dependent manner. PLoS ONE, 2017, 12, e0183174.	1.1	43
25	Actin-based protrusions of migrating neutrophils are intrinsically lamellar and facilitate direction changes. ELife, 2017, 6, .	2.8	107
26	A plasma membrane template for macropinocytic cups. ELife, 2016, 5, .	2.8	140
27	Response to Comment on â€œExtended-resolution structured illumination imaging of endocytic and cytoskeletal dynamicsâ€. Science, 2016, 352, 527-527.	6.0	33
28	Highly photostable, reversibly photoswitchable fluorescent protein with high contrast ratio for live-cell superresolution microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10364-10369.	3.3	69
29	Membrane dynamics of dividing cells imaged by lattice light-sheet microscopy. Molecular Biology of the Cell, 2016, 27, 3418-3435.	0.9	121
30	V-1 regulates capping protein activity in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6610-E6619.	3.3	26
31	Engulfed cadherin fingers are polarized junctional structures between collectively migrating endothelialÂcells. Nature Cell Biology, 2016, 18, 1311-1323.	4.6	230
32	Increased spatiotemporal resolution reveals highly dynamic dense tubular matrices in the peripheral ER. Science, 2016, 354, .	6.0	361
33	Formin-generated actomyosin arcs propel T cell receptor microcluster movement at the immune synapse. Journal of Cell Biology, 2016, 215, 383-399.	2.3	181
34	High-density three-dimensional localization microscopy across large volumes. Nature Methods, 2016, 13, 359-365.	9.0	262
35	Flagellar membrane fusion and protein exchange in trypanosomes; a new form of cell-cell communication?. F1000Research, 2016, 5, 682.	0.8	25
36	Real-time imaging of Huntingtin aggregates diverting target search and gene transcription. ELife, 2016, 5, .	2.8	74

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37	Nobel Lecture: Single molecules, cells, and super-resolution optics. Reviews of Modern Physics, 2015, 87, 1153-1168.	16.4	36
38	Einzelne MolekÃ¼le, Zellen und superhochauflÃ¶sende Optik (Nobelâ€Aufsatz). Angewandte Chemie, 2015, 127, 8146-8166.	1.6	9
39	Single Molecules, Cells, and Superâ€Resolution Optics (Nobel Lecture). Angewandte Chemie - International Edition, 2015, 54, 8034-8053.	7.2	165
40	Imaging Live-Cell Dynamics and Structure at the Single-Molecule Level. Molecular Cell, 2015, 58, 644-659.	4.5	419
41	Actin Depletion Initiates Events Leading to Granule Secretion at the Immunological Synapse. Immunity, 2015, 42, 864-876.	6.6	271
42	Asymmetric formation of coated pits on dorsal and ventral surfaces at the leading edges of motile cells and on protrusions of immobile cells. Molecular Biology of the Cell, 2015, 26, 2044-2053.	0.9	34
43	Three-dimensional tracking of plus-tips by lattice light-sheet microscopy permits the quantification of microtubule growth trajectories within the mitotic apparatus. Journal of Biomedical Optics, 2015, 20, 1.	1.4	49
44	Vinculin is required for cell polarization, migration, and extracellular matrix remodeling in 3D collagen. FASEB Journal, 2015, 29, 4555-4567.	0.2	90
45	Direct wavefront sensing for high-resolution in vivo imaging in scattering tissue. Nature Communications, 2015, 6, 7276.	5.8	208
46	Myosin 18A Coassembles with Nonmuscle Myosin 2 to Form Mixed Bipolar Filaments. Current Biology, 2015, 25, 942-948.	1.8	83
47	Histone H3 Threonine Phosphorylation Regulates Asymmetric Histone Inheritance in the Drosophila Male Germline. Cell, 2015, 163, 920-933.	13.5	110
48	Extended-resolution structured illumination imaging of endocytic and cytoskeletal dynamics. Science, 2015, 349, aab3500.	6.0	585
49	Regulation of RNA granule dynamics by phosphorylation of serine-rich, intrinsically disordered proteins in C. elegans. ELife, 2014, 3, e04591.	2.8	323
50	Nonmuscle Myosin II Isoforms Coassemble in Living Cells. Current Biology, 2014, 24, 1160-1166.	1.8	174
51	Single-Molecule Dynamics of Enhanceosome Assembly in Embryonic Stem Cells. Cell, 2014, 156, 1274-1285.	13.5	532
52	A contractile and counterbalancing adhesion system controls the 3D shape of crawling cells. Journal of Cell Biology, 2014, 205, 83-96.	2.3	170
53	3D live fluorescence imaging of cellular dynamics using Bessel beam plane illumination microscopy. Nature Protocols, 2014, 9, 1083-1101.	5.5	290
54	Lattice light-sheet microscopy: Imaging molecules to embryos at high spatiotemporal resolution. Science, 2014, 346, 1257998.	6.0	1,567

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55	Rapid adaptive optical recovery of optimal resolution over large volumes. Nature Methods, 2014, 11, 625-628.	9.0	253
56	3D imaging of Sox2 enhancer clusters in embryonic stem cells. ELife, 2014, 3, e04236.	2.8	204
57	A Localized Wnt Signal Orients Asymmetric Stem Cell Division in Vitro. Science, 2013, 339, 1445-1448.	6.0	296
58	Carbofluoresceins and Carborhodamines as Scaffolds for High-Contrast Fluorogenic Probes. ACS Chemical Biology, 2013, 8, 1303-1310.	1.6	189
59	Fast structural responses of gap junction membrane domains to AB5 toxins. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E4125-33.	3.3	11
60	Multidimensional traction force microscopy reveals out-of-plane rotational moments about focal adhesions. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 881-886.	3.3	239
61	Characterization and adaptive optical correction of aberrations during in vivo imaging in the mouse cortex. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 22-27.	3.3	184
62	Noninvasive Imaging beyond the Diffraction Limit of 3D Dynamics in Thickly Fluorescent Specimens. Cell, 2012, 151, 1370-1385.	13.5	301
63	Triggering a Cell Shape Change by Exploiting Preexisting Actomyosin Contractions. Science, 2012, 335, 1232-1235.	6.0	251
64	Pupil-segmentation-based adaptive optical microscopy with full-pupil illumination. Optics Letters, 2011, 36, 4206.	1.7	58
65	Rapid three-dimensional isotropic imaging of living cells using Bessel beam plane illumination. Nature Methods, 2011, 8, 417-423.	9.0	1,006
66	Facile and General Synthesis of Photoactivatable Xanthene Dyes. Angewandte Chemie - International Edition, 2011, 50, 11206-11209.	7.2	116
67	Subnuclear segregation of genes and core promoter factors in myogenesis. Genes and Development, 2011, 25, 569-580.	2.7	83
68	Adaptive optics via pupil segmentation for high-resolution imaging in biological tissues. Nature Methods, 2010, 7, 141-147.	9.0	546
69	Single-Molecule Discrimination of Discrete Perisynaptic and Distributed Sites of Actin Filament Assembly within Dendritic Spines. Neuron, 2010, 67, 86-99.	3.8	248
70	Self-Organization of the Escherichia coli Chemotaxis Network Imaged with Super-Resolution Light Microscopy. PLoS Biology, 2009, 7, e1000137.	2.6	310
71	High-speed, low-photodamage nonlinear imaging using passive pulse splitters. Nature Methods, 2008, 5, 197-202.	9.0	207
72	High-density mapping of single-molecule trajectories with photoactivated localization microscopy. Nature Methods, 2008, 5, 155-157.	9.0	1,104

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73	Live-cell photoactivated localization microscopy of nanoscale adhesion dynamics. Nature Methods, 2008, 5, 417-423.	9.0	796
74	Advances in the speed and resolution of light microscopy. Current Opinion in Neurobiology, 2008, 18, 605-616.	2.0	117
75	Dual-color superresolution imaging using genetically expressed probes. , 2008, , .		0
76	DEVELOPING PHOTOACTIVATED LOCALIZATION MICROSCOPY (PALM). , 2007, , .		3
77	Dual-color superresolution imaging of genetically expressed probes within individual adhesion complexes. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20308-20313.	3.3	478
78	Imaging Intracellular Fluorescent Proteins at Nanometer Resolution. Science, 2006, 313, 1642-1645.	6.0	7,580
79	Excitation strategies for optical lattice microscopy. Optics Express, 2005, 13, 3021.	1.7	55
80	Design and implementation of a low temperature nearâ€field scanning optical microscope. Review of Scientific Instruments, 1994, 65, 626-631.	0.6	108
81	Optical spectroscopy of a GaAs/AlGaAs quantum wire structure using nearâ€field scanning optical microscopy. Applied Physics Letters, 1994, 64, 1421-1423.	1.5	152
82	Top tips on scanning probes. Physics World, 1994, 7, 24-24.	0.0	2