William O Hancock

List of Publications by Year
in descending order

88 papers	4,695 citations	109137 35 h-index	118652 62 g-index
106 all docs	106 docs citations	106 times ranked	3392 citing authors

#	Article	IF	Citations
1	Measurement of the persistence length of cytoskeletal filaments using curvature distributions. Biophysical Journal, 2022, 121, 1813-1822.	0.2	7
2	Measurements and simulations of microtubule growth imply strong longitudinal interactions and reveal a role for GDP on the elongating end. ELife, 2022, 11, .	2.8	14
3	Integrated multi-wavelength microscope combining TIRFM and IRM modalities for imaging cellulases and other processive enzymes. Biomedical Optics Express, 2021, 12, 3253.	1.5	6
4	Trim9 and Klp61F promote polymerization of new dendritic microtubules along parallel microtubules. Journal of Cell Science, 2021, 134, .	1.2	6
5	Molecular mechanisms underlying microtubule growthÂdynamics. Current Biology, 2021, 31, R560-R573.	1.8	45
6	Measuring microtubule binding kinetics of membrane-bound kinesin motors using supported lipid bilayers. STAR Protocols, 2021, 2, 100691.	0.5	1
7	Nanoscale dynamics of cellulose digestion by the cellobiohydrolase TrCel7A. Journal of Biological Chemistry, 2021, 297, 101029.	1.6	8
8	A change point analysis protocol for comparing intracellular transport by different molecular motor combinations. Mathematical Biosciences and Engineering, 2021, 18, 8962-8996.	1.0	1
9	Three Beads Are Better Than One. Biophysical Journal, 2020, 118, 1-3.	0.2	14
10	What is the correct stoichiometry of Kv2.1:Kv6.4 heteromers?. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 29288-29289.	3.3	5
11	The Tail of Kinesin-14a in Giardia Is a Dual Regulator of Motility. Current Biology, 2020, 30, 3664-3671.e4.	1.8	3
12	Kinesin-2 from C.Âreinhardtii Is an Atypically Fast and Auto-inhibited Motor that Is Activated by Heterotrimerization for Intraflagellar Transport. Current Biology, 2020, 30, 1160-1166.e5.	1.8	11
13	Dynactin p150 promotes processive motility of DDB complexes by minimizing diffusional behavior of dynein. Molecular Biology of the Cell, 2020, 31, 782-792.	0.9	27
14	A kinetic dissection of the fast and superprocessive kinesin-3 KIF1A reveals a predominant one-head-bound state during its chemomechanical cycle. Journal of Biological Chemistry, 2020, 295, 17889-17903.	1.6	19
15	The Kinesin-2 Family. , 2020, , 33-40.		0
16	Insights into Kinesin-1 Stepping from Simulations and Tracking of Gold Nanoparticle-Labeled Motors. Biophysical Journal, 2019, 117, 331-345.	0.2	14
17	Kinesin-5 Promotes Microtubule Nucleation and Assembly by Stabilizing a Lattice-Competent Conformation of Tubulin. Current Biology, 2019, 29, 2259-2269.e4.	1.8	37
18	Loadâ€dependent detachment kinetics plays a key role in bidirectional cargo transport by kinesin and dynein. Traffic, 2019, 20, 284-294.	1.3	32

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19	Motor Dynamics Underlying Cargo Transport by Pairs of Kinesin-1 and Kinesin-3 Motors. Biophysical Journal, 2019, 116, 1115-1126.	0.2	45
20	The Orphan Kinesin PAKRP2 Achieves Processive Motility via a Noncanonical Stepping Mechanism. Biophysical Journal, 2019, 116, 1270-1281.	0.2	13
21	Direct observation of individual tubulin dimers binding to growing microtubules. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7314-7322.	3.3	60
22	Microtubule binding kinetics of membrane-bound kinesin-1 predicts high motor copy numbers on intracellular cargo. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26564-26570.	3.3	22
23	Dual inhibition of Kif15 by oxindole and quinazolinedione chemical probes. Bioorganic and Medicinal Chemistry Letters, 2019, 29, 148-154.	1.0	19
24	Motor Reattachment Kinetics Play a Dominant Role in Multimotor-Driven Cargo Transport. Biophysical Journal, 2018, 114, 400-409.	0.2	59
25	Mechanics of bidirectional cargo transport. , 2018, , 152-171.		1
26	The S6 gate in regulatory Kv6 subunits restricts heteromeric K+ channel stoichiometry. Journal of General Physiology, 2018, 150, 1702-1721.	0.9	11
27	High-Resolution Single-Molecule Kinesin Assays at kHz Frame Rates. Methods in Molecular Biology, 2018, 1805, 123-138.	0.4	5
28	Mitotic kinesins in action: diffusive searching, directional switching, and ensemble coordination. Molecular Biology of the Cell, 2018, 29, 1153-1156.	0.9	3
29	Eg5 Inhibitors Have Contrasting Effects on Microtubule Stability and Metaphase Spindle Integrity. ACS Chemical Biology, 2017, 12, 1038-1046.	1.6	27
30	Crystal structure of Zen4 in the apo state reveals a missing conformation of kinesin. Nature Communications, 2017, 8, 14951.	5.8	18
31	Kinesin Processivity Is Determined by a Kinetic Race from a Vulnerable One-Head-Bound State. Biophysical Journal, 2017, 112, 2615-2623.	0.2	51
32	The axonal transport motor kinesinâ€2 navigates microtubule obstacles via protofilament switching. Traffic, 2017, 18, 304-314.	1.3	29
33	A Tubulin Binding Switch Underlies Kip3/Kinesin-8 Depolymerase Activity. Developmental Cell, 2017, 42, 37-51.e8.	3.1	67
34	Engineered kinesin motor proteins amenable to small-molecule inhibition. Nature Communications, 2016, 7, 11159.	5.8	28
35	The Kinesin-1 Chemomechanical Cycle: Stepping Toward a Consensus. Biophysical Journal, 2016, 110, 1216-1225.	0.2	86
36	The Kinesin-5 Chemomechanical Cycle Is Dominated by a Two-heads-bound State. Journal of Biological Chemistry, 2016, 291, 20283-20294.	1.6	30

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37	Kinesinâ€2 and Apc function at dendrite branch points to resolve microtubule collisions. Cytoskeleton, 2016, 73, 35-44.	1.0	25
38	Nicotinamide is an endogenous agonist for a C. elegans TRPV OSM-9 and OCR-4 channel. Nature Communications, 2016, 7, 13135.	5.8	29
39	Aging Gracefully: A New Model of Microtubule Growth and Catastrophe. Biophysical Journal, 2015, 109, 2449-2451.	0.2	1
40	Kinetics of nucleotide-dependent structural transitions in the kinesin-1 hydrolysis cycle. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E7186-93.	3.3	113
41	The Mechanochemical Cycle of Mammalian Kinesin-2 KIF3A/B under Load. Current Biology, 2015, 25, 1166-1175.	1.8	75
42	Processivity of the Kinesin-2 KIF3A Results from Rear Head Gating and Not Front Head Gating. Journal of Biological Chemistry, 2015, 290, 10274-10294.	1.6	39
43	Kinesin-5 is a microtubule polymerase. Nature Communications, 2015, 6, 8160.	5.8	84
44	Examining kinesin processivity within a general gating framework. ELife, 2015, 4, .	2.8	158
45	Molecular counting by photobleaching in protein complexes with many subunits: best practices and application to the cellulose synthesis complex. Molecular Biology of the Cell, 2014, 25, 3630-3642.	0.9	64
46	An EB1-Kinesin Complex Is Sufficient to Steer Microtubule Growth InÂVitro. Current Biology, 2014, 24, 316-321.	1.8	28
47	Kinesinâ€™s Neck-Linker Determines its Ability to Navigate Obstacles on the Microtubule Surface. Biophysical Journal, 2014, 106, 1691-1700.	0.2	74
48	Transport by Populations of Fast and Slow Kinesins Uncovers Novel Family-Dependent Motor Characteristics Important for InÂVivo Function. Biophysical Journal, 2014, 107, 1896-1904.	0.2	83
49	Bidirectional cargo transport: moving beyond tug of war. Nature Reviews Molecular Cell Biology, 2014, 15, 615-628.	16.1	355
50	Mitotic Kinesins: A Reason to Delve into Kinesin-12. Current Biology, 2014, 24, R968-R970.	1.8	11
51	Kinesin processivity is gated by phosphate release. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14136-14140.	3.3	113
52	Estimating Velocity for Processive Motor Proteins with Random Detachment. Journal of Agricultural, Biological, and Environmental Statistics, 2013, 18, 204-217.	0.7	9
53	Microtubule asters as templates for nanomaterials assembly. Journal of Biological Engineering, 2012, 6, 23.	2.0	8
54	Kinesins with Extended Neck Linkers: A Chemomechanical Model for Variable-Length Stepping. Bulletin of Mathematical Biology, 2012, 74, 1066-1097.	0.9	18

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55	Cytoskeletal Organization: Whirling toÂthe Beat. Current Biology, 2012, 22, R493-R495.	1.8	1
56	â€œArtificial mitotic spindleâ€•generated by dielectrophoresis and protein micropatterning supports bidirectional transport of kinesin-coated beads. Integrative Biology (United Kingdom), 2011, 3, 57-64.	0.6	12
57	Engineering tubulin: microtubule functionalization approaches for nanoscale device applications. Applied Microbiology and Biotechnology, 2011, 90, 1-10.	1.7	39
58	A matrix computational approach to kinesin neck linker extension. Journal of Theoretical Biology, 2011, 269, 181-194.	0.8	12
59	Interhead tension determines processivity across diverse N-terminal kinesins. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16253-16258.	3.3	88
60	Likelihood inference for particle location in fluorescence microscopy. Annals of Applied Statistics, 2010, 4, .	0.5	8
61	Neck Linker Length Determines the Degree of Processivity in Kinesin-1 and Kinesin-2 Motors. Current Biology, 2010, 20, 939-943.	1.8	110
62	Monte Carlo Analysis of Neck Linker Extension in Kinesin Molecular Motors. PLoS Computational Biology, 2010, 6, e1000980.	1.5	29
63	Anterograde Microtubule Transport Drives Microtubule Bending in LLC-PK1 Epithelial Cells. Molecular Biology of the Cell, 2009, 20, 2943-2953.	0.9	83
64	The Processivity of Kinesin-2 Motors Suggests Diminished Front-Head Gating. Current Biology, 2009, 19, 442-447.	1.8	67
65	Nanoscale patterning of kinesin motor proteins and its role in guiding microtubule motility. Biomedical Microdevices, 2009, 11, 313-322.	1.4	9
66	Insights into the Mechanical Properties of the Kinesin Neck Linker Domain from Sequence Analysis and Molecular Dynamics Simulations. Cellular and Molecular Bioengineering, 2009, 2, 177-189.	1.0	68
67	Surface-Bound Casein Modulates the Adsorption and Activity of Kinesin onÂSiO2 Surfaces. Biophysical Journal, 2009, 96, 3305-3318.	0.2	49
68	Microtubule Alignment and Manipulation Using AC Electrokinetics. Small, 2008, 4, 1371-1381.	5.2	53
69	Transport and detection of unlabeled nucleotide targets by microtubules functionalized with molecular beacons. Biotechnology and Bioengineering, 2008, 99, 764-773.	1.7	24
70	Intracellular Transport: Kinesins Working Together. Current Biology, 2008, 18, R715-R717.	1.8	16
71	The role of casein in supporting the operation of surface bound kinesin. Journal of Biological Engineering, 2008, 2, 14.	2.0	20
72	Directing Transport of CoFe2O4-Functionalized Microtubules with Magnetic Fields. Small, 2007, 3, 126-131.	5.2	78

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73	Microtubule transport, concentration and alignment in enclosed microfluidic channels. Biomedical Microdevices, 2007, 9, 175-184.	1.4	35
74	Magnet assisted fabrication of microtubule arrays. Physical Chemistry Chemical Physics, 2006, 8, 3507.	1.3	11
75	Transport of Semiconductor Nanocrystals by Kinesin Molecular Motors. Small, 2006, 2, 626-630.	5.2	63
76	Millimeter Scale Alignment of Magnetic Nanoparticle Functionalized Microtubules in Magnetic Fields. Journal of the American Chemical Society, 2005, 127, 15686-15687.	6.6	81
77	Microscale Transport and Sorting by Kinesin Molecular Motors. Biomedical Microdevices, 2004, 6, 67-74.	1.4	112
78	Patterning Surface-bound Microtubules through Reversible DNA Hybridization. Nano Letters, 2004, 4, 2127-2132.	4.5	31
79	Lithographically Patterned Channels Spatially Segregate Kinesin Motor Activity and Effectively Guide Microtubule Movements. Nano Letters, 2003, 3, 633-637.	4.5	116
80	The Kinesin-Related Protein MCAK Is a Microtubule Depolymerase that Forms an ATP-Hydrolyzing Complex at Microtubule Ends. Molecular Cell, 2003, 11, 445-457.	4.5	332
81	Reconstitution and Characterization of Budding Yeast Î³-Tubulin Complex. Molecular Biology of the Cell, 2002, 13, 1144-1157.	0.9	80
82	A Polarized Microtubule Array for Kinesin-Powered Nanoscale Assembly and Force Generation. Nano Letters, 2002, 2, 1131-1135.	4.5	71
83	Arabidopsis thaliana protein, ATK1, is a minus-end directed kinesin that exhibits non-processive movement. Cytoskeleton, 2002, 52, 144-150.	4.4	39
84	Kinesin's processivity results from mechanical and chemical coordination between the ATP hydrolysis cycles of the two motor domains. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 13147-13152.	3.3	223
85	Kinesinâ€™s tail domain is an inhibitory regulator of the motor domain. Nature Cell Biology, 1999, 1, 288-292.	4.6	269
86	Processivity of the Motor Protein Kinesin Requires Two Heads. Journal of Cell Biology, 1998, 140, 1395-1405.	2.3	261
87	Models of calcium activation account for differences between skeletal and cardiac force redevelopment kinetics. Journal of Muscle Research and Cell Motility, 1997, 18, 671-681.	0.9	39
88	Kinesins: Processivity and Chemomechanical Coupling. , 0, , 243-269.		3