Francois J Nedelec

List of Publications by Year
in descending order

67 papers	6,776 citations	81743 39 h-index	106150 65 g-index
86 all docs	86 docs citations	86 times ranked	5548 citing authors

#	Article	IF	Citations
1	Microtubule rescue at midzone edges promotes overlap stability and prevents spindle collapse during anaphase B. ELife, 2022, 11, .	2.8	5
2	The 2020 motile active matter roadmap. Journal of Physics Condensed Matter, 2020, 32, 193001.	0.7	242
3	Bond Type and Discretization of Nonmuscle Myosin II Are Critical for Simulated Contractile Dynamics. Biophysical Journal, 2020, 118, 2703-2717.	0.2	10
4	Insights from graph theory on the morphologies of actomyosin networks with multilinkers. Physical Review E, 2020, 102, 062420.	0.8	6
5	Theory of antiparallel microtubule overlap stabilization by motors and diffusible crosslinkers. Cytoskeleton, 2019, 76, 600-610.	1.0	12
6	Self-Organization of Minimal Anaphase Spindle Midzone Bundles. Current Biology, 2019, 29, 2120-2130.e7.	1.8	43
7	Effects of spatial dimensionality and steric interactions on microtubule-motor self-organization. Physical Biology, 2019, 16, 046004.	0.8	16
8	A computational model of the early stages of acentriolar meiotic spindle assembly. Molecular Biology of the Cell, 2019, 30, 863-875.	0.9	22
9	Cross-linkers both drive and brake cytoskeletal remodeling and furrowing in cytokinesis. Molecular Biology of the Cell, 2018, 29, 622-631.	0.9	68
10	Polarity sorting drives remodeling of actin-myosin networks. Journal of Cell Science, 2018, 132, .	1.2	50
11	Determinants of Polar versus Nematic Organization in Networks of Dynamic Microtubules and Mitotic Motors. Cell, 2018, 175, 796-808.e14.	13.5	92
12	Microtubule Dynamics Scale with Cell Size to Set Spindle Length and Assembly Timing. Developmental Cell, 2018, 45, 496-511.e6.	3.1	76
13	A disassembly-driven mechanism explains F-actin-mediated chromosome transport in starfish oocytes. ELife, 2018, 7, .	2.8	26
14	Systematic Nanoscale Analysis of Endocytosis Links Efficient Vesicle Formation to Patterned Actin Nucleation. Cell, 2018, 174, 884-896.e17.	13.5	175
15	F-Actin nucleated on chromosomes coordinates their capture by microtubules in oocyte meiosis. Journal of Cell Biology, 2018, 217, 2661-2674.	2.3	30
16	Mechanism of nuclear movements in a multinucleated cell. Molecular Biology of the Cell, 2017, 28, 645-660.	0.9	20
17	Balance of microtubule stiffness and cortical tension determines the size of blood cells with marginal band across species. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4418-4423.	3.3	46
18	Plastin increases cortical connectivity to facilitate robust polarization and timely cytokinesis. Journal of Cell Biology, 2017, 216, 1371-1386.	2.3	99

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19	Nesprin-1Î±-Dependent Microtubule Nucleation from the Nuclear Envelope via Akap450 Is Necessary for Nuclear Positioning in Muscle Cells. Current Biology, 2017, 27, 2999-3009.e9.	1.8	125
20	ConfocalGN: A minimalistic confocal image generator. SoftwareX, 2017, 6, 243-247.	1.2	9
21	A theory that predicts behaviors of disordered cytoskeletal networks. Molecular Systems Biology, 2017, 13, 941.	3.2	100
22	preconfig: A Versatile Configuration File Generator for Varying Parameters. Journal of Open Research Software, 2017, 5, 9.	2.7	3
23	Amplification of actin polymerization forces. Journal of Cell Biology, 2016, 212, 763-766.	2.3	50
24	Asymmetric division of contractile domains couples cell positioning and fate specification. Nature, 2016, 536, 344-348.	13.7	303
25	Centrosome centering and decentering by microtubule network rearrangement. Molecular Biology of the Cell, 2016, 27, 2833-2843.	0.9	70
26	Dynein Transmits Polarized Actomyosin Cortical Flows to Promote Centrosome Separation. Cell Reports, 2016, 14, 2250-2262.	2.9	43
27	Architecture and Connectivity Govern Actin Network Contractility. Current Biology, 2016, 26, 616-626.	1.8	221
28	Large-scale microtubule networks contract quite well. ELife, 2016, 5, .	2.8	5
29	Visualizing the functional architecture of the endocytic machinery. ELife, 2015, 4, .	2.8	112
30	Membrane Mechanics of Endocytosis in Cells with Turgor. PLoS Computational Biology, 2015, 11, e1004538.	1.5	88
31	Pulsatile cell-autonomous contractility drives compaction in the mouse embryo. Nature Cell Biology, 2015, 17, 849-855.	4.6	267
32	Geometrical and Mechanical Properties Control Actin Filament Organization. PLoS Computational Biology, 2015, 11, e1004245.	1.5	30
33	Collective behavior of minus-ended motors in mitotic microtubule asters gliding toward DNA. Physical Biology, 2014, 11, 016008.	0.8	14
34	Spindle Assembly on Immobilized Chromatin Micropatterns. Methods in Enzymology, 2014, 540, 435-448.	0.4	1
35	Geometrical and Mechanical Properties Control Actin Filament Organization. Biophysical Journal, 2014, 106, 568a-569a.	0.2	3
36	Mitotic Spindle Assembly on Chromatin Patterns Made with Deep UV Photochemistry. Methods in Cell Biology, 2014, 120, 3-17.	0.5	1

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37	An Arp2/3 Nucleated F-Actin Shell Fragments Nuclear Membranes at Nuclear Envelope Breakdown in Starfish Oocytes. Current Biology, 2014, 24, 1421-1428.	1.8	56
38	Mechanical design principles of a mitotic spindle. ELife, 2014, 3, e03398.	2.8	53
39	A self-organization framework for symmetry breaking in the mammalian embryo. Nature Reviews Molecular Cell Biology, 2013, 14, 452-459.	16.1	109
40	Spindle pole body-anchored Kar3 drives the nucleus along microtubules from another nucleus in preparation for nuclear fusion during yeast karyogamy. Genes and Development, 2013, 27, 335-349.	2.7	25
41	Patterns of molecular motors that guide and sort filaments. Lab on A Chip, 2012, 12, 4903.	3.1	25
42	Katanin Contributes to Interspecies Spindle Length Scaling in Xenopus. Cell, 2011, 147, 1397-1407.	13.5	184
43	Augmin promotes meiotic spindle formation and bipolarity in <i>Xenopus</i> egg extracts. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14473-14478.	3.3	91
44	A computational model predicts <i>Xenopus</i> meiotic spindle organization. Journal of Cell Biology, 2010, 191, 1239-1249.	2.3	125
45	Condensins Promote Chromosome Recoiling during Early Anaphase to Complete Sister Chromatid Separation. Developmental Cell, 2010, 19, 232-244.	3.1	64
46	Forceâ€•and lengthâ€dependent catastrophe activities explain interphase microtubule organization in fission yeast. Molecular Systems Biology, 2009, 5, 241.	3.2	68
47	A theory of microtubule catastrophes and their regulation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21173-21178.	3.3	77
48	Phospho-Regulated Interaction between Kinesin-6 Klp9p and Microtubule Bundler Ase1p Promotes Spindle Elongation. Developmental Cell, 2009, 17, 257-267.	3.1	130
49	Chromatin Shapes the Mitotic Spindle. Cell, 2009, 138, 502-513.	13.5	84
50	Chromatin Shapes the Mitotic Spindle. , 2009, 138, 502-513.		1
51	Mechanism of phototaxis in marine zooplankton. Nature, 2008, 456, 395-399.	13.7	254
52	Spatial Regulation Improves Antiparallel Microtubule Overlap during Mitotic Spindle Assembly. Biophysical Journal, 2008, 94, 2598-2609.	0.2	19
53	Regulation of Microtubule Dynamics by Reaction Cascades Around Chromosomes. Science, 2008, 322, 1243-1247.	6.0	72
54	Collective Langevin dynamics of flexible cytoskeletal fibers. New Journal of Physics, 2007, 9, 427-427.	1.2	202

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55	Crosslinkers and Motors Organize Dynamic Microtubules to Form Stable Bipolar Arrays in Fission Yeast. Cell, 2007, 128, 357-368.	13.5	222
56	Cortical Microtubule Contacts Position the Spindle in C. elegans Embryos. Cell, 2007, 129, 499-510.	13.5	212
57	Modelling microtubule patterns. Nature Cell Biology, 2006, 8, 1204-1211.	4.6	88
58	Mechanisms for focusing mitotic spindle poles by minus endâ€“directed motor proteins. Journal of Cell Biology, 2005, 171, 229-240.	2.3	240
59	The mitotic spindle and actin tails. Biology of the Cell, 2004, 96, 237-240.	0.7	13
60	Self-organisation and forces in the microtubule cytoskeleton. Current Opinion in Cell Biology, 2003, 15, 118-124.	2.6	122
61	Computer simulations reveal motor properties generating stable antiparallel microtubule interactions. Journal of Cell Biology, 2002, 158, 1005-1015.	2.3	183
62	Assaying Spatial Organization of Microtubules by Kinesin Motors. , 2001, 164, 213-222.		2
63	Dynamics of microtubule aster formation by motor complexes. Comptes Rendus Physique, 2001, 2, 841-847.	0.1	8
64	Physical Properties Determining Self-Organization of Motors and Microtubules. Science, 2001, 292, 1167-1171.	6.0	555
65	Dynamic Concentration of Motors in Microtubule Arrays. Physical Review Letters, 2001, 86, 3192-3195.	2.9	101
66	Chromophore-assisted light inactivation and self-organization of microtubules and motors. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 4293-4298.	3.3	143
67	Self-organization of microtubules and motors. Nature, 1997, 389, 305-308.	13.7	748