Francois J Nedelec

List of Publications by Year in Descending Order

66 papers	4,974 citations	37 h-index	70 g-index
86 ext. papers	6,190 ext. citations	14.4 avg, IF	5.7 L-index

#	Paper	IF	Citations
66	The 2020 motile active matter roadmap. *Journal of Physics Condensed Matter*, **2020**, 32, 193001	1.8	115
65	Insights from graph theory on the morphologies of actomyosin networks with multilinkers. *Physical Review E*, **2020**, 102, 062420	2.4	3
64	Bond Type and Discretization of Nonmuscle Myosin II Are Critical for Simulated Contractile Dynamics. *Biophysical Journal*, **2020**, 118, 2703-2717	2.9	3
63	Self-Organization of Minimal Anaphase Spindle Midzone Bundles. *Current Biology*, **2019**, 29, 2120-2130.e7	7.3	19
62	Effects of spatial dimensionality and steric interactions on microtubule-motor self-organization. *Physical Biology*, **2019**, 16, 046004	3	7
61	Theory of antiparallel microtubule overlap stabilization by motors and diffusible crosslinkers. *Cytoskeleton*, **2019**, 76, 600-610	2.4	6
60	A computational model of the early stages of acentriolar meiotic spindle assembly. *Molecular Biology of the Cell*, **2019**, 30, 863-875	3.5	13
59	Cross-linkers both drive and brake cytoskeletal remodeling and furrowing in cytokinesis. *Molecular Biology of the Cell*, **2018**, 29, 622-631	3.5	31
58	Systematic Nanoscale Analysis of Endocytosis Links Efficient Vesicle Formation to Patterned Actin Nucleation. *Cell*, **2018**, 174, 884-896.e17	56.2	99
57	F-Actin nucleated on chromosomes coordinates their capture by microtubules in oocyte meiosis. *Journal of Cell Biology*, **2018**, 217, 2661-2674	7.3	17
56	Polarity sorting drives remodeling of actin-myosin networks. *Journal of Cell Science*, **2018**, 132,	5.3	23
55	Determinants of Polar versus Nematic Organization in Networks of Dynamic Microtubules and Mitotic Motors. *Cell*, **2018**, 175, 796-808.e14	56.2	50
54	Microtubule Dynamics Scale with Cell Size to Set Spindle Length and Assembly Timing. *Developmental Cell*, **2018**, 45, 496-511.e6	10.2	45
53	A disassembly-driven mechanism explains F-actin-mediated chromosome transport in starfish oocytes. *ELife*, **2018**, 7,	8.9	15
52	Mechanism of nuclear movements in a multinucleated cell. *Molecular Biology of the Cell*, **2017**, 28, 645-660	3.5	16
51	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	11.5	28
50	Plastin increases cortical connectivity to facilitate robust polarization and timely cytokinesis. *Journal of Cell Biology*, **2017**, 216, 1371-1386	7.3	53

49	Nesprin-1‐Dependent Microtubule Nucleation from the Nuclear Envelope via Akap450 Is Necessary for Nuclear Positioning in Muscle Cells. *Current Biology*, **2017**, 27, 2999-3009.e9	6.3	80
48	A theory that predicts behaviors of disordered cytoskeletal networks. *Molecular Systems Biology*, **2017**, 13, 941	12.2	56
47	ConfocalGN: A minimalistic confocal image generator. *SoftwareX*, **2017**, 6, 243-247	2.7	6
46	preconfig: A Versatile Configuration File Generator for Varying Parameters. *Journal of Open Research Software*, **2017**, 5,	2.3	3
45	Centrosome centering and decentering by microtubule network rearrangement. *Molecular Biology of the Cell*, **2016**, 27, 2833-43	3.5	48
44	Dynein Transmits Polarized Actomyosin Cortical Flows to Promote Centrosome Separation. *Cell Reports*, **2016**, 14, 2250-2262	10.6	30
43	Architecture and Connectivity Govern Actin Network Contractility. *Current Biology*, **2016**, 26, 616-26	6.3	131
42	Large-scale microtubule networks contract quite well. *ELife*, **2016**, 5,	8.9	3
41	Amplification of actin polymerization forces. *Journal of Cell Biology*, **2016**, 212, 763-6	7.3	36
40	Asymmetric division of contractile domains couples cell positioning and fate specification. *Nature*, **2016**, 536, 344-348	50.4	209
39	Pulsatile cell-autonomous contractility drives compaction in the mouse embryo. *Nature Cell Biology*, **2015**, 17, 849-55	23.4	184
38	Geometrical and mechanical properties control actin filament organization. *PLoS Computational Biology*, **2015**, 11, e1004245	5	22
37	Visualizing the functional architecture of the endocytic machinery. *ELife*, **2015**, 4,	8.9	80
36	Membrane Mechanics of Endocytosis in Cells with Turgor. *PLoS Computational Biology*, **2015**, 11, e1004538	5	64
35	Mitotic spindle assembly on chromatin patterns made with deep UV photochemistry. *Methods in Cell Biology*, **2014**, 120, 3-17	1.8	1
34	An Arp2/3 nucleated F-actin shell fragments nuclear membranes at nuclear envelope breakdown in starfish oocytes. *Current Biology*, **2014**, 24, 1421-1428	6.3	38
33	Collective behavior of minus-ended motors in mitotic microtubule asters gliding toward DNA. *Physical Biology*, **2014**, 11, 016008	3	11
32	Spindle assembly on immobilized chromatin micropatterns. *Methods in Enzymology*, **2014**, 540, 435-48	1.7	1

31	Mechanical design principles of a mitotic spindle. *ELife*, **2014**, 3, e03398	8.9	38
30	A self-organization framework for symmetry breaking in the mammalian embryo. *Nature Reviews Molecular Cell Biology*, **2013**, 14, 452-9	48.7	88
29	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, 335-49	12.6	24
28	Patterns of molecular motors that guide and sort filaments. *Lab on A Chip*, **2012**, 12, 4903-10	7.2	19
27	Katanin contributes to interspecies spindle length scaling in Xenopus. *Cell*, **2011**, 147, 1397-407	56.2	144
26	Augmin promotes meiotic spindle formation and bipolarity in Xenopus egg extracts. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 14473-8	11.5	69
25	A computational model predicts Xenopus meiotic spindle organization. *Journal of Cell Biology*, **2010** , 191, 1239-49	7.3	99
24	Condensins promote chromosome recoiling during early anaphase to complete sister chromatid separation. *Developmental Cell*, **2010**, 19, 232-44	10.2	52
23	Force- and length-dependent catastrophe activities explain interphase microtubule organization in fission yeast. *Molecular Systems Biology*, **2009**, 5, 241	12.2	57
22	A theory of microtubule catastrophes and their regulation. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 21173-8	11.5	60
21	Phospho-regulated interaction between kinesin-6 Klp9p and microtubule bundler Ase1p promotes spindle elongation. *Developmental Cell*, **2009**, 17, 257-67	10.2	103
20	Chromatin shapes the mitotic spindle. *Cell*, **2009**, 138, 502-13	56.2	69
19	Mechanism of phototaxis in marine zooplankton. *Nature*, **2008**, 456, 395-9	50.4	208
18	Spatial regulation improves antiparallel microtubule overlap during mitotic spindle assembly. *Biophysical Journal*, **2008**, 94, 2598-609	2.9	17
17	Regulation of microtubule dynamics by reaction cascades around chromosomes. *Science*, **2008**, 322, 1243-7	33.3	64
16	Collective Langevin dynamics of flexible cytoskeletal fibers. *New Journal of Physics*, **2007**, 9, 427-427	2.9	133
15	Crosslinkers and motors organize dynamic microtubules to form stable bipolar arrays in fission yeast. *Cell*, **2007**, 128, 357-68	56.2	182
14	Cortical microtubule contacts position the spindle in C. elegans embryos. *Cell*, **2007**, 129, 499-510	56.2	171

13	Modelling microtubule patterns. *Nature Cell Biology*, **2006**, 8, 1204-11	23.4	75
12	Mechanisms for focusing mitotic spindle poles by minus end-directed motor proteins. *Journal of Cell Biology*, **2005**, 171, 229-40	7.3	207
11	The mitotic spindle and actin tails. *Biology of the Cell*, **2004**, 96, 237-40	3.5	11
10	Self-organisation and forces in the microtubule cytoskeleton. *Current Opinion in Cell Biology*, **2003**, 15, 118-24	9	108
9	Computer simulations reveal motor properties generating stable antiparallel microtubule interactions. *Journal of Cell Biology*, **2002**, 158, 1005-15	7.3	163
8	Assaying spatial organization of microtubules by kinesin motors. *Methods in Molecular Biology*, **2001**, 164, 213-22	1.4	2
7	Dynamics of microtubule aster formation by motor complexes. *Comptes Rendus Physique*, **2001**, 2, 841-847		7
6	Physical properties determining self-organization of motors and microtubules. *Science*, **2001**, 292, 1167-71	33.3	435
5	Dynamic concentration of motors in microtubule arrays. *Physical Review Letters*, **2001**, 86, 3192-5	7.4	77
4	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, 4293-8	11.5	127
3	Self-organization of microtubules and motors. *Nature*, **1997**, 389, 305-8	50.4	611
2	Systematic analysis of the molecular architecture of endocytosis reveals a nanoscale actin nucleation template that drives efficient vesicle formation		5
1	Crosslinkers both drive and brake cytoskeletal remodeling and furrowing in cytokinesis		1