

# Francois J Nedelec

## List of Publications by Citations

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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	Self-organization of microtubules and motors. <i>Nature</i> , <b>1997</b> , 389, 305-8	50.4	611
65	Physical properties determining self-organization of motors and microtubules. <i>Science</i> , <b>2001</b> , 292, 1167-71	31.3	435
64	Asymmetric division of contractile domains couples cell positioning and fate specification. <i>Nature</i> , <b>2016</b> , 536, 344-348	50.4	209
63	Mechanism of phototaxis in marine zooplankton. <i>Nature</i> , <b>2008</b> , 456, 395-9	50.4	208
62	Mechanisms for focusing mitotic spindle poles by minus end-directed motor proteins. <i>Journal of Cell Biology</i> , <b>2005</b> , 171, 229-40	7.3	207
61	Pulsatile cell-autonomous contractility drives compaction in the mouse embryo. <i>Nature Cell Biology</i> , <b>2015</b> , 17, 849-55	23.4	184
60	Crosslinkers and motors organize dynamic microtubules to form stable bipolar arrays in fission yeast. <i>Cell</i> , <b>2007</b> , 128, 357-68	56.2	182
59	Cortical microtubule contacts position the spindle in <i>C. elegans</i> embryos. <i>Cell</i> , <b>2007</b> , 129, 499-510	56.2	171
58	Computer simulations reveal motor properties generating stable antiparallel microtubule interactions. <i>Journal of Cell Biology</i> , <b>2002</b> , 158, 1005-15	7.3	163
57	Katanin contributes to interspecies spindle length scaling in <i>Xenopus</i> . <i>Cell</i> , <b>2011</b> , 147, 1397-407	56.2	144
56	Collective Langevin dynamics of flexible cytoskeletal fibers. <i>New Journal of Physics</i> , <b>2007</b> , 9, 427-427	2.9	133
55	Architecture and Connectivity Govern Actin Network Contractility. <i>Current Biology</i> , <b>2016</b> , 26, 616-26	6.3	131
54	Chromophore-assisted light inactivation and self-organization of microtubules and motors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>1998</b> , 95, 4293-8	11.5	127
53	The 2020 motile active matter roadmap. <i>Journal of Physics Condensed Matter</i> , <b>2020</b> , 32, 193001	1.8	115
52	Self-organisation and forces in the microtubule cytoskeleton. <i>Current Opinion in Cell Biology</i> , <b>2003</b> , 15, 118-24	9	108
51	Phospho-regulated interaction between kinesin-6 Klp9p and microtubule bundler Ase1p promotes spindle elongation. <i>Developmental Cell</i> , <b>2009</b> , 17, 257-67	10.2	103
50	Systematic Nanoscale Analysis of Endocytosis Links Efficient Vesicle Formation to Patterned Actin Nucleation. <i>Cell</i> , <b>2018</b> , 174, 884-896.e17	56.2	99

49	A computational model predicts <i>Xenopus</i> meiotic spindle organization. <i>Journal of Cell Biology</i> , <b>2010</b> , 191, 1239-49	7.3	99
48	A self-organization framework for symmetry breaking in the mammalian embryo. <i>Nature Reviews Molecular Cell Biology</i> , <b>2013</b> , 14, 452-9	48.7	88
47	Nesprin-1-Dependent Microtubule Nucleation from the Nuclear Envelope via Akap450 Is Necessary for Nuclear Positioning in Muscle Cells. <i>Current Biology</i> , <b>2017</b> , 27, 2999-3009.e9	6.3	80
46	Visualizing the functional architecture of the endocytic machinery. <i>ELife</i> , <b>2015</b> , 4,	8.9	80
45	Dynamic concentration of motors in microtubule arrays. <i>Physical Review Letters</i> , <b>2001</b> , 86, 3192-5	7.4	77
44	Modelling microtubule patterns. <i>Nature Cell Biology</i> , <b>2006</b> , 8, 1204-11	23.4	75
43	Chromatin shapes the mitotic spindle. <i>Cell</i> , <b>2009</b> , 138, 502-13	56.2	69
42	Augmin promotes meiotic spindle formation and bipolarity in <i>Xenopus</i> egg extracts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 14473-8	11.5	69
41	Membrane Mechanics of Endocytosis in Cells with Turgor. <i>PLoS Computational Biology</i> , <b>2015</b> , 11, e1004538	3.8	64
40	Regulation of microtubule dynamics by reaction cascades around chromosomes. <i>Science</i> , <b>2008</b> , 322, 1243-7	37.3	64
39	A theory of microtubule catastrophes and their regulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 21173-8	11.5	60
38	Force- and length-dependent catastrophe activities explain interphase microtubule organization in fission yeast. <i>Molecular Systems Biology</i> , <b>2009</b> , 5, 241	12.2	57
37	A theory that predicts behaviors of disordered cytoskeletal networks. <i>Molecular Systems Biology</i> , <b>2017</b> , 13, 941	12.2	56
36	Plastin increases cortical connectivity to facilitate robust polarization and timely cytokinesis. <i>Journal of Cell Biology</i> , <b>2017</b> , 216, 1371-1386	7.3	53
35	Condensins promote chromosome recoiling during early anaphase to complete sister chromatid separation. <i>Developmental Cell</i> , <b>2010</b> , 19, 232-44	10.2	52
34	Determinants of Polar versus Nematic Organization in Networks of Dynamic Microtubules and Mitotic Motors. <i>Cell</i> , <b>2018</b> , 175, 796-808.e14	56.2	50
33	Centrosome centering and decentering by microtubule network rearrangement. <i>Molecular Biology of the Cell</i> , <b>2016</b> , 27, 2833-43	3.5	48
32	Microtubule Dynamics Scale with Cell Size to Set Spindle Length and Assembly Timing. <i>Developmental Cell</i> , <b>2018</b> , 45, 496-511.e6	10.2	45

31	An Arp2/3 nucleated F-actin shell fragments nuclear membranes at nuclear envelope breakdown in starfish oocytes. <i>Current Biology</i> , <b>2014</b> , 24, 1421-1428	6.3	38
30	Mechanical design principles of a mitotic spindle. <i>ELife</i> , <b>2014</b> , 3, e03398	8.9	38
29	Amplification of actin polymerization forces. <i>Journal of Cell Biology</i> , <b>2016</b> , 212, 763-6	7.3	36
28	Cross-linkers both drive and brake cytoskeletal remodeling and furrowing in cytokinesis. <i>Molecular Biology of the Cell</i> , <b>2018</b> , 29, 622-631	3.5	31
27	Dynein Transmits Polarized Actomyosin Cortical Flows to Promote Centrosome Separation. <i>Cell Reports</i> , <b>2016</b> , 14, 2250-2262	10.6	30
26	Balance of microtubule stiffness and cortical tension determines the size of blood cells with marginal band across species. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 4418-4423	11.5	28
25	Spindle pole body-anchored Kar3 drives the nucleus along microtubules from another nucleus in preparation for nuclear fusion during yeast karyogamy. <i>Genes and Development</i> , <b>2013</b> , 27, 335-49	12.6	24
24	Polarity sorting drives remodeling of actin-myosin networks. <i>Journal of Cell Science</i> , <b>2018</b> , 132,	5.3	23
23	Geometrical and mechanical properties control actin filament organization. <i>PLoS Computational Biology</i> , <b>2015</b> , 11, e1004245	5	22
22	Self-Organization of Minimal Anaphase Spindle Midzone Bundles. <i>Current Biology</i> , <b>2019</b> , 29, 2120-2130. <del>6.3</del>	6.3	19
21	Patterns of molecular motors that guide and sort filaments. <i>Lab on A Chip</i> , <b>2012</b> , 12, 4903-10	7.2	19
20	F-Actin nucleated on chromosomes coordinates their capture by microtubules in oocyte meiosis. <i>Journal of Cell Biology</i> , <b>2018</b> , 217, 2661-2674	7.3	17
19	Spatial regulation improves antiparallel microtubule overlap during mitotic spindle assembly. <i>Biophysical Journal</i> , <b>2008</b> , 94, 2598-609	2.9	17
18	Mechanism of nuclear movements in a multinucleated cell. <i>Molecular Biology of the Cell</i> , <b>2017</b> , 28, 645-660.	6.5	16
17	A disassembly-driven mechanism explains F-actin-mediated chromosome transport in starfish oocytes. <i>ELife</i> , <b>2018</b> , 7,	8.9	15
16	A computational model of the early stages of acentriolar meiotic spindle assembly. <i>Molecular Biology of the Cell</i> , <b>2019</b> , 30, 863-875	3.5	13
15	Collective behavior of minus-ended motors in mitotic microtubule asters gliding toward DNA. <i>Physical Biology</i> , <b>2014</b> , 11, 016008	3	11
14	The mitotic spindle and actin tails. <i>Biology of the Cell</i> , <b>2004</b> , 96, 237-40	3.5	11

13	Effects of spatial dimensionality and steric interactions on microtubule-motor self-organization. <i>Physical Biology</i> , <b>2019</b> , 16, 046004	3	7
12	Dynamics of microtubule aster formation by motor complexes. <i>Comptes Rendus Physique</i> , <b>2001</b> , 2, 841-847		7
11	Theory of antiparallel microtubule overlap stabilization by motors and diffusible crosslinkers. <i>Cytoskeleton</i> , <b>2019</b> , 76, 600-610	2.4	6
10	ConfocalGN: A minimalistic confocal image generator. <i>SoftwareX</i> , <b>2017</b> , 6, 243-247	2.7	6
9	Systematic analysis of the molecular architecture of endocytosis reveals a nanoscale actin nucleation template that drives efficient vesicle formation		5
8	preconfig: A Versatile Configuration File Generator for Varying Parameters. <i>Journal of Open Research Software</i> , <b>2017</b> , 5,	2.3	3
7	Large-scale microtubule networks contract quite well. <i>ELife</i> , <b>2016</b> , 5,	8.9	3
6	Insights from graph theory on the morphologies of actomyosin networks with multilinkers. <i>Physical Review E</i> , <b>2020</b> , 102, 062420	2.4	3
5	Bond Type and Discretization of Nonmuscle Myosin II Are Critical for Simulated Contractile Dynamics. <i>Biophysical Journal</i> , <b>2020</b> , 118, 2703-2717	2.9	3
4	Assaying spatial organization of microtubules by kinesin motors. <i>Methods in Molecular Biology</i> , <b>2001</b> , 164, 213-22	1.4	2
3	Mitotic spindle assembly on chromatin patterns made with deep UV photochemistry. <i>Methods in Cell Biology</i> , <b>2014</b> , 120, 3-17	1.8	1
2	Spindle assembly on immobilized chromatin micropatterns. <i>Methods in Enzymology</i> , <b>2014</b> , 540, 435-48	1.7	1
1	Crosslinkers both drive and brake cytoskeletal remodeling and furrowing in cytokinesis		1