Aurelien R Roux

List of Publications by Year
in descending order

111 papers	10,235 citations	57758 44 h-index	39675 94 g-index
150 all docs	150 docs citations	150 times ranked	10791 citing authors

#	Article	IF	Citations
1	HydroFlipper membrane tension probes: imaging membrane hydration and mechanical compression simultaneously in living cells. Chemical Science, 2022, 13, 2086-2093.	7.4	21
2	Integer topological defects organize stresses driving tissue morphogenesis. Nature Materials, 2022, 21, 588-597.	27.5	62
3	Snf7 spirals sense and alter membrane curvature. Nature Communications, 2022, 13, 2174.	12.8	8
4	Epithelial cells adapt to curvature induction via transient active osmotic swelling. Developmental Cell, 2022, 57, 1257-1270.e5.	7.0	10
5	The Dynamic Range of Acidity: Tracking Rules for the Unidirectional Penetration of Cellular Compartments. ChemBioChem, 2022, 23, .	2.6	6
6	Mechanics of ESCRT-III mediated membrane fission. Faraday Discussions, 2021, , .	3.2	0
7	Quantifying Material Properties of Cell Monolayers by Analyzing Integer Topological Defects. Physical Review Letters, 2021, 126, 028101.	7.8	23
8	Lysosomal retargeting of Myoferlin mitigates membrane stress to enable pancreatic cancer growth. Nature Cell Biology, 2021, 23, 232-242.	10.3	41
9	Fluorescent Membrane Tension Probes for Early Endosomes. Angewandte Chemie, 2021, 133, 12366-12371.	2.0	8
10	Mitochondrial membrane tension governs fission. Cell Reports, 2021, 35, 108947.	6.4	43
11	Fluorescent Membrane Tension Probes for Early Endosomes. Angewandte Chemie - International Edition, 2021, 60, 12258-12263.	13.8	28
12	Principles of membrane remodeling by dynamic ESCRT-III polymers. Trends in Cell Biology, 2021, 31, 856-868.	7.9	45
13	Structural requirements for membrane binding of human guanylateâ€binding protein 1. FEBS Journal, 2021, 288, 4098-4114.	4.7	13
14	Integer topological defects of cell monolayers: Mechanics and flows. Physical Review E, 2021, 103, 012405.	2.1	17
15	Passive coupling of membrane tension and cell volume during active response of cells to osmosis. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	65
16	Flipper Probes for the Community. Chimia, 2021, 75, 1004.	0.6	9
17	Chemical-Biology-derived in vivo Sensors: Past, Present, and Future. Chimia, 2021, 75, 1017.	0.6	1
18	Bending toward differentiation. Developmental Cell, 2021, 56, 3176-3177.	7.0	1

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19	Caprinâ€‌ Promotes Cellular Uptake of Nucleic Acids with Backbone and Sequence Discrimination. Helvetica Chimica Acta, 2020, 103, e1900255.	1.6	4
20	Palmitate and oleate modify membrane fluidity and kinase activities of INS-1E Î²-cells alongside altered metabolism-secretion coupling. Biochimica Et Biophysica Acta - Molecular Cell Research, 2020, 1867, 118619.	4.1	17
21	An ESCRT-III Polymerization Sequence Drives Membrane Deformation and Fission. Cell, 2020, 182, 1140-1155.e18.	28.9	123
22	Conserved Functions of Ether Lipids and Sphingolipids in the Early Secretory Pathway. Current Biology, 2020, 30, 3775-3787.e7.	3.9	59
23	Endosomal membrane tension regulates ESCRT-III-dependent intra-lumenal vesicle formation. Nature Cell Biology, 2020, 22, 947-959.	10.3	68
24	Buckling of an Epithelium Growing under Spherical Confinement. Developmental Cell, 2020, 54, 655-668.e6.	7.0	75
25	ALIX- and ESCRT-IIIâ€“dependent sorting of tetraspanins to exosomes. Journal of Cell Biology, 2020, 219, .	5.2	215
26	Anisotropic ESCRT-III architecture governs helical membrane tube formation. Nature Communications, 2020, 11, 1516.	12.8	55
27	Doa4 directly binds Snf7 to inhibit the recruitment of ESCRT-III remodeling factors. Journal of Cell Science, 2020, 133, .	2.0	10
28	Fluorescent Membrane Tension Probes for Super-Resolution Microscopy: Combining Mechanosensitive Cascade Switching with Dynamic-Covalent Ketone Chemistry. Journal of the American Chemical Society, 2020, 142, 12034-12038.	13.7	53
29	Curvature dependent constraints drive remodeling of epithelia. Journal of Cell Science, 2019, 132, .	2.0	17
30	Structure and assembly of the mitochondrial membrane remodelling GTPase Mgm1. Nature, 2019, 571, 429-433.	27.8	86
31	Investigating Membrane Curvature Dependence of Snf7 Polymerization using High-Speed Atomic Force Microscopy. Biophysical Journal, 2019, 116, 372a.	0.5	0
32	Cells at Wrinkled Interfaces: Laserâ€Assisted Strain Engineering of Thin Elastomer Films to Form Variable Wavy Substrates for Cell Culture (Small 21/2019). Small, 2019, 15, 1970113.	10.0	0
33	The tilted helix model of dynamin oligomers. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12845-12850.	7.1	8
34	TORC2 controls endocytosis through plasma membrane tension. Journal of Cell Biology, 2019, 218, 2265-2276.	5.2	44
35	Laserâ€Assisted Strain Engineering of Thin Elastomer Films to Form Variable Wavy Substrates for Cell Culture. Small, 2019, 15, e1900162.	10.0	12
36	Mechanosensitive Fluorescent Probes to Image Membrane Tension in Mitochondria, Endoplasmic Reticulum, and Lysosomes. Journal of the American Chemical Society, 2019, 141, 3380-3384.	13.7	167

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37	Optical control of cytoplasmic flows. Nature Cell Biology, 2018, 20, 227-228.	10.3	4
38	Mechanisms of clathrin-mediated endocytosis. Nature Reviews Molecular Cell Biology, 2018, 19, 313-326.	37.0	1,060
39	Influence of cell mechanics and proliferation on the buckling of simulated tissues using a vertex model. Natural Computing, 2018, 17, 511-519.	3.0	10
40	Common Energetic and Mechanical Features of Membrane Fusion and Fission Machineries. , 2018, , 421-469.		3
41	Facile and Rapid Formation of Giant Vesicles from Glass Beads. Polymers, 2018, 10, 54.	4.5	10
42	Decrease in plasma membrane tension triggers PtdIns(4,5)P2 phase separation to inactivate TORC2. Nature Cell Biology, 2018, 20, 1043-1051.	10.3	114
43	A fluorescent membrane tension probe. Nature Chemistry, 2018, 10, 1118-1125.	13.6	343
44	Lysophospholipids Facilitate COPII Vesicle Formation. Current Biology, 2018, 28, 1950-1958.e6.	3.9	47
45	Recovery of ESCRT-III Filaments Subjected to Force: An â€˜Invasive Modeâ€™ HS-AFM Study. Biophysical Journal, 2017, 112, 92a.	0.5	0
46	Dynamic remodeling of the dynamin helix during membrane constriction. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5449-5454.	7.1	44
47	Mitochondrial Homeostasis: How Do Dimers of Mitofusins Mediate Mitochondrial Fusion?. Current Biology, 2017, 27, R353-R356.	3.9	33
48	Tensing Up for Lipid Droplet Formation. Developmental Cell, 2017, 41, 571-572.	7.0	7
49	Dynamic subunit turnover in ESCRT-III assemblies is regulated by Vps4 to mediate membrane remodelling during cytokinesis. Nature Cell Biology, 2017, 19, 787-798.	10.3	222
50	Measuring Lipid Membrane Properties using a Mechanosensitive Fluorescence Probe. Biophysical Journal, 2017, 112, 42a.	0.5	0
51	Twisted Pushâ€Pull Probes with Turnâ€On Sulfide Donors. Helvetica Chimica Acta, 2017, 100, .	1.6	19
52	Membrane scission driven by the PROPPIN Atg18. EMBO Journal, 2017, 36, 3274-3291.	7.8	68
53	Dynamic and elastic shape transitions in curved ESCRT-III filaments. Current Opinion in Cell Biology, 2017, 47, 126-135.	5.4	47
54	Nucleotide-dependent farnesyl switch orchestrates polymerization and membrane binding of human guanylate-binding protein 1. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5559-E5568.	7.1	53

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55	Amphiphysin (BIN1) negatively regulates dynamin 2 for normal muscle maturation. Journal of Clinical Investigation, 2017, 127, 4477-4487.	8.2	70
56	The advantage of channeling nucleotides for very processive functions. F1000Research, 2017, 6, 724.	1.6	27
57	The advantage of channeling nucleotides for very processive functions. F1000Research, 2017, 6, 724.	1.6	36
58	Uncoupling of dynamin polymerization and GTPase activity revealed by the conformation-specific nanobody dynab. ELife, 2017, 6, .	6.0	18
59	Structural inhibition of dynamin-mediated membrane fission by endophilin. ELife, 2017, 6, .	6.0	40
60	Headgroup engineering in mechanosensitive membrane probes. Chemical Communications, 2016, 52, 14450-14453.	4.1	46
61	Membrane fission by dynamin: what we know and what we need to know. EMBO Journal, 2016, 35, 2270-2284.	7.8	388
62	Structural insights into the centronuclear myopathy-associated functions of BIN1 and dynamin 2. Journal of Structural Biology, 2016, 196, 37-47.	2.8	41
63	A 3D printed microfluidic device for production of functionalized hydrogel microcapsules for culture and differentiation of human Neuronal Stem Cells (hNSC). Lab on A Chip, 2016, 16, 1593-1604.	6.0	121
64	High-Speed Atomic Force Microscopy of ESCRT Protein Assembly. Biophysical Journal, 2015, 108, 353a.	0.5	0
65	Mitochondrial NM23-H4/NDPk-D is Multifunctional: Fueling Mitochondrial GTPase OPA1 and Triggering Mitophagy. Biophysical Journal, 2015, 108, 369a.	0.5	0
66	Relaxation of Loaded ESCRT-III Spiral Springs Drives Membrane Deformation. Cell, 2015, 163, 866-879.	28.9	289
67	Fluorescent Flippers for Mechanosensitive Membrane Probes. Journal of the American Chemical Society, 2015, 137, 568-571.	13.7	159
68	A balance between membrane elasticity and polymerization energy sets the shape of spherical clathrin coats. Nature Communications, 2015, 6, 6249.	12.8	165
69	When cell biology meets theory. Journal of Cell Biology, 2015, 210, 1041-1045.	5.2	2
70	Cell-penetrating poly(disulfide)s: the dependence of activity, depolymerization kinetics and intracellular localization on their length. Organic and Biomolecular Chemistry, 2015, 13, 64-67.	2.8	48
71	BIN1/M-Amphiphysin2 induces clustering of phosphoinositides to recruit its downstream partner dynamin. Nature Communications, 2014, 5, 5647.	12.8	94
72	Buckling of a Physically-Constrained Growing Epithelium. Biophysical Journal, 2014, 106, 786a-787a.	0.5	0

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73	Cellular Uptake of Substrate-Initiated Cell-Penetrating Poly(disulfide)s. Journal of the American Chemical Society, 2014, 136, 6069-6074.	13.7	219
74	Nucleoside diphosphate kinases fuel dynamin superfamily proteins with GTP for membrane remodeling. Science, 2014, 344, 1510-1515.	12.6	130
75	BAR Domain Scaffolds in Dynamin-Mediated Membrane Fission. Cell, 2014, 156, 882-892.	28.9	199
76	Human Guanylate-Binding Protein 1 Tethers Giant Unilamellar Vesicles in a Nucleotide-Dependent Manner. Biophysical Journal, 2014, 106, 515a.	0.5	0
77	Reaching a consensus on the mechanism of dynamin?. F1000prime Reports, 2014, 6, 86.	5.9	15
78	Activation of Membrane Fission by Local Elastic Energy Increase at the Edge of Dynamin. Biophysical Journal, 2013, 104, 617a.	0.5	0
79	The physics of membrane tubes: soft templates for studying cellular membranes. Soft Matter, 2013, 9, 6726.	2.7	53
80	Substrate-Initiated Synthesis of Cell-Penetrating Poly(disulfide)s. Journal of the American Chemical Society, 2013, 135, 2088-2091.	13.7	180
81	Mechanics of Dynamin-Mediated Membrane Fission. Annual Review of Biophysics, 2013, 42, 629-649.	10.0	136
82	Dynamin 2 homozygous mutation in humans with a lethal congenital syndrome. European Journal of Human Genetics, 2013, 21, 637-642.	2.8	53
83	Membrane Shape at the Edge of the Dynamin Helix Sets Location and Duration of the Fission Reaction. Cell, 2012, 151, 619-629.	28.9	164
84	Amphiphilic dynamic NDI and PDI probes: imaging microdomains in giant unilamellar vesicles. Organic and Biomolecular Chemistry, 2012, 10, 6087.	2.8	17
85	Proteins Shaping Membranes : Quantitative Measurements. Biophysical Journal, 2012, 102, 234a.	0.5	1
86	Nature of curvature coupling of amphiphysin with membranes depends on its bound density. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 173-178.	7.1	266
87	C.P.7 Dynamin 2 in skeletal muscle development and diseases. Neuromuscular Disorders, 2012, 22, 842-843.	0.6	0
88	Essential Elastic and Shape Parameters Govern the Dynamics and Energetics of Dynamin-Mediated Membrane Fission. Biophysical Journal, 2012, 102, 322a.	0.5	0
89	Plasma membrane stress induces relocalization of Slm proteins and activation of TORC2 to promote sphingolipid synthesis. Nature Cell Biology, 2012, 14, 542-547.	10.3	303
90	Membrane Deformation Caused by Clathrin and Associated Adaptor Proteins In Vitro. Biophysical Journal, 2011, 100, 406a.	0.5	0

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91	Quantitative Analysis of Membrane Deformation and Fission Induced by Dynamin GTPase Activity. Biophysical Journal, 2011, 100, 406a-407a.	0.5	0
92	Synaptojanin 1-Mediated PI(4,5)P2 Hydrolysis Is Modulated by Membrane Curvature and Facilitates Membrane Fission. Developmental Cell, 2011, 20, 206-218.	7.0	154
93	Chemical Biology Approaches to Membrane Homeostasis and Function. Chimia, 2011, 65, 849-852.	0.6	3
94	Membrane-mediated interactions and the dynamics of dynamin oligomers on membrane tubes. New Journal of Physics, 2011, 13, 065008.	2.9	36
95	Actin takes its hat off to dynamin. EMBO Journal, 2010, 29, 3591-3592.	7.8	1
96	Membrane curvature controls dynamin polymerization. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4141-4146.	7.1	262
97	Deformation of Dynamin Helices Damped by Membrane Friction. Biophysical Journal, 2010, 99, 3580-3588.	0.5	19
98	Mechanical requirements for membrane fission: Common facts from various examples. FEBS Letters, 2009, 583, 3839-3846.	2.8	53
99	<i>Intracellular Transport</i>. Annals of the New York Academy of Sciences, 2008, 1123, 119-125.	3.8	7
100	Structural Basis of Membrane Invagination by F-BAR Domains. Cell, 2008, 132, 807-817.	28.9	509
101	The Long and Short of Membrane Fission. Cell, 2008, 135, 1163-1165.	28.9	23
102	Arf1-GTP-induced Tubule Formation Suggests a Function of Arf Family Proteins in Curvature Acquisition at Sites of Vesicle Budding. Journal of Biological Chemistry, 2008, 283, 27717-27723.	3.4	100
103	GTP-dependent twisting of dynamin implicates constriction and tension in membrane fission. Nature, 2006, 441, 528-531.	27.8	432
104	Role of curvature and phase transition in lipid sorting and fission of membrane tubules. EMBO Journal, 2005, 24, 1537-1545.	7.8	434
105	Synthesis and preliminary physical applications of a rhodamin-biotin phosphatidylethanolamine, an easy attainable lipid double probe. Chemistry and Physics of Lipids, 2005, 133, 215-223.	3.2	4
106	Dynamin and the Actin Cytoskeleton Cooperatively Regulate Plasma Membrane Invagination by BAR and F-BAR Proteins. Developmental Cell, 2005, 9, 791-804.	7.0	538
107	Cooperative extraction of membrane nanotubes by molecular motors. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 17096-17101.	7.1	258
108	Fission of a Multiphase Membrane Tube. Physical Review Letters, 2004, 93, 158104.	7.8	94

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109	Recombinant Antibodies Against Subcellular Fractions Used to Track Endogenous Golgi Protein Dynamics in Vivo. Traffic, 2003, 4, 739-753.	2.7	90
110	M Phase Phosphoprotein 1 Is a Human Plus-end-directed Kinesin-related Protein Required for Cytokinesis. Journal of Biological Chemistry, 2003, 278, 27844-27852.	3.4	82
111	A minimal system allowing tubulation with molecular motors pulling on giant liposomes. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5394-5399.	7.1	291