

Aurelien R Roux

List of Publications by Year in descending order

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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	Mechanisms of clathrin-mediated endocytosis. <i>Nature Reviews Molecular Cell Biology</i> , 2018, 19, 313-326.	37.0	1,060
2	Dynamin and the Actin Cytoskeleton Cooperatively Regulate Plasma Membrane Invagination by BAR and F-BAR Proteins. <i>Developmental Cell</i> , 2005, 9, 791-804.	7.0	538
3	Structural Basis of Membrane Invagination by F-BAR Domains. <i>Cell</i> , 2008, 132, 807-817.	28.9	509
4	Role of curvature and phase transition in lipid sorting and fission of membrane tubules. <i>EMBO Journal</i> , 2005, 24, 1537-1545.	7.8	434
5	GTP-dependent twisting of dynamin implicates constriction and tension in membrane fission. <i>Nature</i> , 2006, 441, 528-531.	27.8	432
6	Membrane fission by dynamin: what we know and what we need to know. <i>EMBO Journal</i> , 2016, 35, 2270-2284.	7.8	388
7	A fluorescent membrane tension probe. <i>Nature Chemistry</i> , 2018, 10, 1118-1125.	13.6	343
8	Plasma membrane stress induces relocalization of Slm proteins and activation of TORC2 to promote sphingolipid synthesis. <i>Nature Cell Biology</i> , 2012, 14, 542-547.	10.3	303
9	A minimal system allowing tubulation with molecular motors pulling on giant liposomes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 5394-5399.	7.1	291
10	Relaxation of Loaded ESCRT-III Spiral Springs Drives Membrane Deformation. <i>Cell</i> , 2015, 163, 866-879.	28.9	289
11	Nature of curvature coupling of amphiphysin with membranes depends on its bound density. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 173-178.	7.1	266
12	Membrane curvature controls dynamin polymerization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 4141-4146.	7.1	262
13	Cooperative extraction of membrane nanotubes by molecular motors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 17096-17101.	7.1	258
14	Dynamic subunit turnover in ESCRT-III assemblies is regulated by Vps4 to mediate membrane remodelling during cytokinesis. <i>Nature Cell Biology</i> , 2017, 19, 787-798.	10.3	222
15	Cellular Uptake of Substrate-Initiated Cell-Penetrating Poly(disulfide)s. <i>Journal of the American Chemical Society</i> , 2014, 136, 6069-6074.	13.7	219
16	ALIX- and ESCRT-III-dependent sorting of tetraspanins to exosomes. <i>Journal of Cell Biology</i> , 2020, 219, .	5.2	215
17	BAR Domain Scaffolds in Dynamin-Mediated Membrane Fission. <i>Cell</i> , 2014, 156, 882-892.	28.9	199
18	Substrate-Initiated Synthesis of Cell-Penetrating Poly(disulfide)s. <i>Journal of the American Chemical Society</i> , 2013, 135, 2088-2091.	13.7	180

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19	Mechanosensitive Fluorescent Probes to Image Membrane Tension in Mitochondria, Endoplasmic Reticulum, and Lysosomes. <i>Journal of the American Chemical Society</i> , 2019, 141, 3380-3384.	13.7	167
20	A balance between membrane elasticity and polymerization energy sets the shape of spherical clathrin coats. <i>Nature Communications</i> , 2015, 6, 6249.	12.8	165
21	Membrane Shape at the Edge of the Dynamin Helix Sets Location and Duration of the Fission Reaction. <i>Cell</i> , 2012, 151, 619-629.	28.9	164
22	Fluorescent Flippers for Mechanosensitive Membrane Probes. <i>Journal of the American Chemical Society</i> , 2015, 137, 568-571.	13.7	159
23	Synaptojanin 1-Mediated PI(4,5)P2 Hydrolysis Is Modulated by Membrane Curvature and Facilitates Membrane Fission. <i>Developmental Cell</i> , 2011, 20, 206-218.	7.0	154
24	Mechanics of Dynamin-Mediated Membrane Fission. <i>Annual Review of Biophysics</i> , 2013, 42, 629-649.	10.0	136
25	Nucleoside diphosphate kinases fuel dynamin superfamily proteins with GTP for membrane remodeling. <i>Science</i> , 2014, 344, 1510-1515.	12.6	130
26	An ESCRT-III Polymerization Sequence Drives Membrane Deformation and Fission. <i>Cell</i> , 2020, 182, 1140-1155.e18.	28.9	123
27	A 3D printed microfluidic device for production of functionalized hydrogel microcapsules for culture and differentiation of human Neuronal Stem Cells (hNSC). <i>Lab on A Chip</i> , 2016, 16, 1593-1604.	6.0	121
28	Decrease in plasma membrane tension triggers PtdIns(4,5)P2 phase separation to inactivate TORC2. <i>Nature Cell Biology</i> , 2018, 20, 1043-1051.	10.3	114
29	Arf1-GTP-induced Tubule Formation Suggests a Function of Arf Family Proteins in Curvature Acquisition at Sites of Vesicle Budding. <i>Journal of Biological Chemistry</i> , 2008, 283, 27717-27723.	3.4	100
30	Fission of a Multiphase Membrane Tube. <i>Physical Review Letters</i> , 2004, 93, 158104.	7.8	94
31	BIN1/M-Amphiphysin2 induces clustering of phosphoinositides to recruit its downstream partner dynamin. <i>Nature Communications</i> , 2014, 5, 5647.	12.8	94
32	Recombinant Antibodies Against Subcellular Fractions Used to Track Endogenous Golgi Protein Dynamics in Vivo. <i>Traffic</i> , 2003, 4, 739-753.	2.7	90
33	Structure and assembly of the mitochondrial membrane remodelling GTPase Mgm1. <i>Nature</i> , 2019, 571, 429-433.	27.8	86
34	M Phase Phosphoprotein 1 Is a Human Plus-end-directed Kinesin-related Protein Required for Cytokinesis. <i>Journal of Biological Chemistry</i> , 2003, 278, 27844-27852.	3.4	82
35	Buckling of an Epithelium Growing under Spherical Confinement. <i>Developmental Cell</i> , 2020, 54, 655-668.e6.	7.0	75
36	Amphiphysin (BIN1) negatively regulates dynamin 2 for normal muscle maturation. <i>Journal of Clinical Investigation</i> , 2017, 127, 4477-4487.	8.2	70

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37	Membrane scission driven by the PROPPIN Atg18. <i>EMBO Journal</i> , 2017, 36, 3274-3291.	7.8	68
38	Endosomal membrane tension regulates ESCRT-III-dependent intra-luminal vesicle formation. <i>Nature Cell Biology</i> , 2020, 22, 947-959.	10.3	68
39	Passive coupling of membrane tension and cell volume during active response of cells to osmosis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	65
40	Integer topological defects organize stresses driving tissue morphogenesis. <i>Nature Materials</i> , 2022, 21, 588-597.	27.5	62
41	Conserved Functions of Ether Lipids and Sphingolipids in the Early Secretory Pathway. <i>Current Biology</i> , 2020, 30, 3775-3787.e7.	3.9	59
42	Anisotropic ESCRT-III architecture governs helical membrane tube formation. <i>Nature Communications</i> , 2020, 11, 1516.	12.8	55
43	Mechanical requirements for membrane fission: Common facts from various examples. <i>FEBS Letters</i> , 2009, 583, 3839-3846.	2.8	53
44	The physics of membrane tubes: soft templates for studying cellular membranes. <i>Soft Matter</i> , 2013, 9, 6726.	2.7	53
45	Dynamin 2 homozygous mutation in humans with a lethal congenital syndrome. <i>European Journal of Human Genetics</i> , 2013, 21, 637-642.	2.8	53
46	Nucleotide-dependent farnesyl switch orchestrates polymerization and membrane binding of human guanylate-binding protein 1. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E5559-E5568.	7.1	53
47	Fluorescent Membrane Tension Probes for Super-Resolution Microscopy: Combining Mechanosensitive Cascade Switching with Dynamic-Covalent Ketone Chemistry. <i>Journal of the American Chemical Society</i> , 2020, 142, 12034-12038.	13.7	53
48	Cell-penetrating poly(disulfide)s: the dependence of activity, depolymerization kinetics and intracellular localization on their length. <i>Organic and Biomolecular Chemistry</i> , 2015, 13, 64-67.	2.8	48
49	Dynamic and elastic shape transitions in curved ESCRT-III filaments. <i>Current Opinion in Cell Biology</i> , 2017, 47, 126-135.	5.4	47
50	Lysophospholipids Facilitate COPII Vesicle Formation. <i>Current Biology</i> , 2018, 28, 1950-1958.e6.	3.9	47
51	Headgroup engineering in mechanosensitive membrane probes. <i>Chemical Communications</i> , 2016, 52, 14450-14453.	4.1	46
52	Principles of membrane remodeling by dynamic ESCRT-III polymers. <i>Trends in Cell Biology</i> , 2021, 31, 856-868.	7.9	45
53	Dynamic remodeling of the dynamin helix during membrane constriction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 5449-5454.	7.1	44
54	TORC2 controls endocytosis through plasma membrane tension. <i>Journal of Cell Biology</i> , 2019, 218, 2265-2276.	5.2	44

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55	Mitochondrial membrane tension governs fission. <i>Cell Reports</i> , 2021, 35, 108947.	6.4	43
56	Structural insights into the centronuclear myopathy-associated functions of BIN1 and dynamin 2. <i>Journal of Structural Biology</i> , 2016, 196, 37-47.	2.8	41
57	Lysosomal retargeting of Myoferlin mitigates membrane stress to enable pancreatic cancer growth. <i>Nature Cell Biology</i> , 2021, 23, 232-242.	10.3	41
58	Structural inhibition of dynamin-mediated membrane fission by endophilin. <i>ELife</i> , 2017, 6, .	6.0	40
59	Membrane-mediated interactions and the dynamics of dynamin oligomers on membrane tubes. <i>New Journal of Physics</i> , 2011, 13, 065008.	2.9	36
60	The advantage of channeling nucleotides for very processive functions. <i>F1000Research</i> , 2017, 6, 724.	1.6	36
61	Mitochondrial Homeostasis: How Do Dimers of Mitofusins Mediate Mitochondrial Fusion?. <i>Current Biology</i> , 2017, 27, R353-R356.	3.9	33
62	Fluorescent Membrane Tension Probes for Early Endosomes. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 12258-12263.	13.8	28
63	The advantage of channeling nucleotides for very processive functions. <i>F1000Research</i> , 2017, 6, 724.	1.6	27
64	The Long and Short of Membrane Fission. <i>Cell</i> , 2008, 135, 1163-1165.	28.9	23
65	Quantifying Material Properties of Cell Monolayers by Analyzing Integer Topological Defects. <i>Physical Review Letters</i> , 2021, 126, 028101.	7.8	23
66	HydroFlipper membrane tension probes: imaging membrane hydration and mechanical compression simultaneously in living cells. <i>Chemical Science</i> , 2022, 13, 2086-2093.	7.4	21
67	Deformation of Dynamin Helices Damped by Membrane Friction. <i>Biophysical Journal</i> , 2010, 99, 3580-3588.	0.5	19
68	Twisted Push&Pull Probes with Turn&On Sulfide Donors. <i>Helvetica Chimica Acta</i> , 2017, 100, .	1.6	19
69	Uncoupling of dynamin polymerization and GTPase activity revealed by the conformation-specific nanobody dynab. <i>ELife</i> , 2017, 6, .	6.0	18
70	Amphiphilic dynamic NDI and PDI probes: imaging microdomains in giant unilamellar vesicles. <i>Organic and Biomolecular Chemistry</i> , 2012, 10, 6087.	2.8	17
71	Curvature dependent constraints drive remodeling of epithelia. <i>Journal of Cell Science</i> , 2019, 132, .	2.0	17
72	Palmitate and oleate modify membrane fluidity and kinase activities of INS-1E β -cells alongside altered metabolism-secretion coupling. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2020, 1867, 118619.	4.1	17

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73	Integer topological defects of cell monolayers: Mechanics and flows. <i>Physical Review E</i> , 2021, 103, 012405.	2.1	17
74	Reaching a consensus on the mechanism of dynamin?. <i>F1000prime Reports</i> , 2014, 6, 86.	5.9	15
75	Structural requirements for membrane binding of human guanylate-binding protein 1. <i>FEBS Journal</i> , 2021, 288, 4098-4114.	4.7	13
76	Laser-Assisted Strain Engineering of Thin Elastomer Films to Form Variable Wavy Substrates for Cell Culture. <i>Small</i> , 2019, 15, e1900162.	10.0	12
77	Influence of cell mechanics and proliferation on the buckling of simulated tissues using a vertex model. <i>Natural Computing</i> , 2018, 17, 511-519.	3.0	10
78	Facile and Rapid Formation of Giant Vesicles from Glass Beads. <i>Polymers</i> , 2018, 10, 54.	4.5	10
79	Doa4 directly binds Snf7 to inhibit the recruitment of ESCRT-III remodeling factors. <i>Journal of Cell Science</i> , 2020, 133, .	2.0	10
80	Epithelial cells adapt to curvature induction via transient active osmotic swelling. <i>Developmental Cell</i> , 2022, 57, 1257-1270.e5.	7.0	10
81	Flipper Probes for the Community. <i>Chimia</i> , 2021, 75, 1004.	0.6	9
82	The tilted helix model of dynamin oligomers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 12845-12850.	7.1	8
83	Fluorescent Membrane Tension Probes for Early Endosomes. <i>Angewandte Chemie</i> , 2021, 133, 12366-12371.	2.0	8
84	Snf7 spirals sense and alter membrane curvature. <i>Nature Communications</i> , 2022, 13, 2174.	12.8	8
85	<i>Intracellular Transport</i>. <i>Annals of the New York Academy of Sciences</i> , 2008, 1123, 119-125.	3.8	7
86	Tensing Up for Lipid Droplet Formation. <i>Developmental Cell</i> , 2017, 41, 571-572.	7.0	7
87	The Dynamic Range of Acidity: Tracking Rules for the Unidirectional Penetration of Cellular Compartments. <i>ChemBioChem</i> , 2022, 23, .	2.6	6
88	Synthesis and preliminary physical applications of a rhodamin-biotin phosphatidylethanolamine, an easy attainable lipid double probe. <i>Chemistry and Physics of Lipids</i> , 2005, 133, 215-223.	3.2	4
89	Optical control of cytoplasmic flows. <i>Nature Cell Biology</i> , 2018, 20, 227-228.	10.3	4
90	Caprin Promotes Cellular Uptake of Nucleic Acids with Backbone and Sequence Discrimination. <i>Helvetica Chimica Acta</i> , 2020, 103, e1900255.	1.6	4

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91	Chemical Biology Approaches to Membrane Homeostasis and Function. <i>Chimia</i> , 2011, 65, 849-852.	0.6	3
92	Common Energetic and Mechanical Features of Membrane Fusion and Fission Machineries. , 2018, , 421-469.		3
93	When cell biology meets theory. <i>Journal of Cell Biology</i> , 2015, 210, 1041-1045.	5.2	2
94	Actin takes its hat off to dynamin. <i>EMBO Journal</i> , 2010, 29, 3591-3592.	7.8	1
95	Proteins Shaping Membranes : Quantitative Measurements. <i>Biophysical Journal</i> , 2012, 102, 234a.	0.5	1
96	Chemical-Biology-derived in vivo Sensors: Past, Present, and Future. <i>Chimia</i> , 2021, 75, 1017.	0.6	1
97	Bending toward differentiation. <i>Developmental Cell</i> , 2021, 56, 3176-3177.	7.0	1
98	Membrane Deformation Caused by Clathrin and Associated Adaptor Proteins In Vitro. <i>Biophysical Journal</i> , 2011, 100, 406a.	0.5	0
99	Quantitative Analysis of Membrane Deformation and Fission Induced by Dynamin GTPase Activity. <i>Biophysical Journal</i> , 2011, 100, 406a-407a.	0.5	0
100	C.P.7 Dynamin 2 in skeletal muscle development and diseases. <i>Neuromuscular Disorders</i> , 2012, 22, 842-843.	0.6	0
101	Essential Elastic and Shape Parameters Govern the Dynamics and Energetics of Dynamin-Mediated Membrane Fission. <i>Biophysical Journal</i> , 2012, 102, 322a.	0.5	0
102	Activation of Membrane Fission by Local Elastic Energy Increase at the Edge of Dynamin. <i>Biophysical Journal</i> , 2013, 104, 617a.	0.5	0
103	Buckling of a Physically-Constrained Growing Epithelium. <i>Biophysical Journal</i> , 2014, 106, 786a-787a.	0.5	0
104	Human Guanylate-Binding Protein 1 Tethers Giant Unilamellar Vesicles in a Nucleotide-Dependent Manner. <i>Biophysical Journal</i> , 2014, 106, 515a.	0.5	0
105	High-Speed Atomic Force Microscopy of ESCRT Protein Assembly. <i>Biophysical Journal</i> , 2015, 108, 353a.	0.5	0
106	Mitochondrial NM23-H4/NDP κ -D is Multifunctional: Fueling Mitochondrial GTPase OPA1 and Triggering Mitophagy. <i>Biophysical Journal</i> , 2015, 108, 369a.	0.5	0
107	Recovery of ESCRT-III Filaments Subjected to Force: An ϵ -Invasive Mode ϵ ™ HS-AFM Study. <i>Biophysical Journal</i> , 2017, 112, 92a.	0.5	0
108	Measuring Lipid Membrane Properties using a Mechanosensitive Fluorescence Probe. <i>Biophysical Journal</i> , 2017, 112, 42a.	0.5	0

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109	Investigating Membrane Curvature Dependence of Snf7 Polymerization using High-Speed Atomic Force Microscopy. Biophysical Journal, 2019, 116, 372a.	0.5	0
110	Cells at Wrinkled Interfaces: Laser-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
111	Mechanics of ESCRT-III mediated membrane fission. Faraday Discussions, 2021, , .	3.2	0