Vadim A Frolov

List of Publications by Year
in descending order

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51 papers	3,725 citations	218381 26 h-index	344852 36 g-index
53 all docs	53 docs citations	53 times ranked	4296 citing authors

#	Article	IF	Citations
1	Membrane fission by dynamin: what we know and what we need to know. EMBO Journal, 2016, 35, 2270-2284.	3.5	388
2	The Pathway of Membrane Fusion Catalyzed by Influenza Hemagglutinin: Restriction of Lipids, Hemifusion, and Lipidic Fusion Pore Formation. Journal of Cell Biology, 1998, 140, 1369-1382.	2.3	358
3	Stochastic transport through carbon nanotubes in lipid bilayers and live cell membranes. Nature, 2014, 514, 612-615.	13.7	350
4	GTPase Cycle of Dynamin Is Coupled to Membrane Squeeze and Release, Leading to Spontaneous Fission. Cell, 2008, 135, 1276-1286.	13.5	269
5	Dynamin: Functional Design of a Membrane Fission Catalyst. Annual Review of Cell and Developmental Biology, 2011, 27, 79-105.	4.0	264
6	Voltage-Induced Nonconductive Pre-Pores and Metastable Single Pores in Unmodified Planar Lipid Bilayer. Biophysical Journal, 2001, 80, 1829-1836.	0.2	236
7	The 2018 biomembrane curvature and remodeling roadmap. Journal Physics D: Applied Physics, 2018, 51, 343001.	1.3	212
8	An Early Stage of Membrane Fusion Mediated by the Low pH Conformation of Influenza Hemagglutinin Depends upon Membrane Lipids. Journal of Cell Biology, 1997, 136, 81-93.	2.3	206
9	Insulin stimulates the halting, tethering, and fusion of mobile GLUT4 vesicles in rat adipose cells. Journal of Cell Biology, 2005, 169, 481-489.	2.3	158
10	Lipid Polymorphisms and Membrane Shape. Cold Spring Harbor Perspectives in Biology, 2011, 3, a004747-a004747.	2.3	152
11	Pro-apoptotic Cleavage Products of Bcl-xL Form Cytochrome c-conducting Pores in Pure Lipid Membranes. Journal of Biological Chemistry, 2001, 276, 31083-31091.	1.6	134
12	Geometric Catalysis of Membrane Fission Driven by Flexible Dynamin Rings. Science, 2013, 339, 1433-1436.	6.0	123
13	â€œEntropic Trapsâ€•in the Kinetics of Phase Separation in Multicomponent Membranes Stabilize Nanodomains. Biophysical Journal, 2006, 91, 189-205.	0.2	109
14	A hemi-fission intermediate links two mechanistically distinct stages of membrane fission. Nature, 2015, 524, 109-113.	13.7	91
15	Membrane Permeability Changes at Early Stages of Influenza Hemagglutinin-Mediated Fusion. Biophysical Journal, 2003, 85, 1725-1733.	0.2	84
16	Structural intermediates in influenza haemagglutinin-mediated fusion. Molecular Membrane Biology, 1999, 16, 33-42.	2.0	67
17	Reconstitution of Proapoptotic BAK Function in Liposomes Reveals a Dual Role for Mitochondrial Lipids in the BAK-driven Membrane Permeabilization Process. Journal of Biological Chemistry, 2011, 286, 8213-8230.	1.6	66
18	Multiple Local Contact Sites are Induced by GPI-Linked Influenza Hemagglutinin During Hemifusion and Flickering Pore Formation. Traffic, 2000, 1, 622-630.	1.3	58

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19	Shape bistability of a membrane neck: A toggle switch to control vesicle content release. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 8698-8703.	3.3	53
20	Vesicle formation by self-assembly of membrane-bound matrix proteins into a fluidlike budding domain. Journal of Cell Biology, 2007, 179, 627-633.	2.3	53
21	Dynamic constriction and fission of endoplasmic reticulum membranes by reticulon. Nature Communications, 2019, 10, 5327.	5.8	46
22	Synthesis, lipid membrane incorporation, and ion permeability testing of carbon nanotube porins. Nature Protocols, 2016, 11, 2029-2047.	5.5	42
23	Geometry of membrane fission. Chemistry and Physics of Lipids, 2015, 185, 129-140.	1.5	40
24	Domain-Driven Morphogenesis of Cellular Membranes. Current Biology, 2009, 19, R772-R780.	1.8	33
25	Synaptotagmin: fusogenic role for calcium sensor?. Nature Structural and Molecular Biology, 2006, 13, 301-303.	3.6	32
26	Cooperative elastic stresses, the hydrophobic effect, and lipid tilt in membrane remodeling. FEBS Letters, 2010, 584, 1824-1829.	1.3	31
27	Molecular Shape Solution for Mesoscopic Remodeling of Cellular Membranes. Annual Review of Biophysics, 2022, 51, 473-497.	4.5	16
28	Variation of lipid membrane composition caused by strong bending. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2011, 5, 205-211.	0.3	14
29	ER Biogenesis: Self-Assembly of Tubular Topology by Protein Hairpins. Current Biology, 2008, 18, R474-R476.	1.8	12
30	Reconstitution and real-time quantification of membrane remodeling by single proteins and protein complexes. Nature Protocols, 2020, 15, 2443-2469.	5.5	12
31	Flexible Scaffolding Made of Rigid BARs. Cell, 2008, 132, 727-729.	13.5	6
32	Shaping biological matter. Nature Materials, 2009, 8, 173-174.	13.3	4
33	Membrane Curvature and Fission By Dynamin: Mechanics, Dynamics and Partners. Biophysical Journal, 2010, 98, 2a.	0.2	2
34	Electrophysiological Methods for Detection of Membrane and Hemifission by Dynamin 1. Methods in Molecular Biology, 2020, 2159, 141-162.	0.4	2
35	Lipids as Regulators of Effective Membrane Rigidity. Biophysical Journal, 2014, 106, 288a.	0.2	1
36	Live Cell Interactions with Biocompatible Ultra-Short Carbon Nanotube Porins. Biophysical Journal, 2015, 108, 487a-488a.	0.2	1

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37	Breakdown of Charged Lipid Asymmetry as a Result of Lipidic Pore Formation. Biophysical Journal, 2009, 96, 152a.	0.2	0
38	Fission Of Lipid Nanotube By Osmotic Pressure. Biophysical Journal, 2009, 96, 351a.	0.2	0
39	Measurement Of Mechanical Parameters Of Lipid Bilayer Form The Deformation Of Membrane Nanotube In Electric Field. Biophysical Journal, 2009, 96, 351a-352a.	0.2	0
40	Non-bilayer intermediates and pathways of membrane remodeling. Chemistry and Physics of Lipids, 2010, 163, S2.	1.5	0
41	Spatio-Temporal Organization of a Minimal Dynamin Machinery Producing Membrane Fission. Biophysical Journal, 2012, 102, 322a.	0.2	0
42	Coordination of Bending and Wedging in Membrane Fission. Biophysical Journal, 2012, 102, 322a.	0.2	0
43	Quantification of Curvature Gradients in Highly Curved Tubular Lipid Bilayers. Biophysical Journal, 2013, 104, 243a.	0.2	0
44	The Regulatory Catalytic Step in Dynamin-Driven Membrane Fission. Biophysical Journal, 2013, 104, 617a.	0.2	0
45	Curvature Stimulates Assembly of Gag Shell through Distinct Fluid-Like Intermediate. Biophysical Journal, 2013, 104, 416a-417a.	0.2	0
46	Rapid Determination of Geometry and Elastic Constants of Lipid Nanotubes. Biophysical Journal, 2014, 106, 700a.	0.2	0
47	Cholesterol Effect on the Elastic Properties of Unsaturated Lipid Bilayers. Biophysical Journal, 2016, 110, 369a-370a.	0.2	0
48	Bending Modulus of Multicomponent Lipid Membranes. Biophysical Journal, 2017, 112, 520a.	0.2	0
49	Catalytic Intermediates of Membrane Fission. Biophysical Journal, 2017, 112, 158a.	0.2	0
50	Highly Charged Membrane Templates for Studying the Mechano-Chemistry of Dynamin 1. Biophysical Journal, 2018, 114, 281a.	0.2	0
51	Nanomechanics of Membrane Fission: Elasticity of the Precursor State. Biophysical Journal, 2018, 114, 606a-607a.	0.2	0