David Holcman

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Astroglial networks: a step further in neuroglial and gliovascular interactions. Nature Reviews Neuroscience, 2010, 11, 87-99.	10.2	652
2	Astroglial networks scale synaptic activity and plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8467-8472.	7.1	325
3	The narrow escape problem for diffusion in cellular microdomains. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 16098-16103.	7.1	285
4	Connexin 30 sets synaptic strength by controlling astroglial synapse invasion. Nature Neuroscience, 2014, 17, 549-558.	14.8	269
5	Histone degradation in response to DNA damage enhances chromatin dynamics and recombination rates. Nature Structural and Molecular Biology, 2017, 24, 99-107.	8.2	220
6	The Emergence of Up and Down States in Cortical Networks. PLoS Computational Biology, 2006, 2, e23.	3.2	197
7	Escape Through a Small Opening: Receptor Trafficking in a Synaptic Membrane. Journal of Statistical Physics, 2004, 117, 975-1014.	1.2	132
8	Heterogeneity of AMPA receptor trafficking and molecular interactions revealed by superresolution analysis of live cell imaging. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17052-17057.	7.1	131
9	Narrow Escape, Part I. Journal of Statistical Physics, 2006, 122, 437-463.	1.2	125
10	Narrow Escape, Part II: The Circular Disk. Journal of Statistical Physics, 2006, 122, 465-489.	1.2	124
11	The Narrow Escape Problem. SIAM Review, 2014, 56, 213-257.	9.5	119
12	Narrow Escape, Part III: Non-Smooth Domains and Riemann Surfaces. Journal of Statistical Physics, 2006, 122, 491-509.	1.2	105
13	Modeling Synaptic Dynamics Driven by Receptor Lateral Diffusion. Biophysical Journal, 2006, 91, 2405-2415.	0.5	103
14	Visualization of Chromatin Decompaction and Break Site Extrusion as Predicted by Statistical Polymer Modeling of Single-Locus Trajectories. Cell Reports, 2017, 18, 1200-1214.	6.4	96
15	Partially Reflected Diffusion. SIAM Journal on Applied Mathematics, 2008, 68, 844-868.	1.8	88
16	Single particle trajectories reveal active endoplasmic reticulum luminal flow. Nature Cell Biology, 2018, 20, 1118-1125.	10.3	86
17	Synapse Geometry and Receptor Dynamics Modulate Synaptic Strength. PLoS ONE, 2011, 6, e25122.	2.5	75
18	The Neuroglial Potassium Cycle during Neurotransmission: Role of Kir4.1 Channels. PLoS Computational Biology, 2015, 11, e1004137.	3.2	74

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19	The Length of the Shortest Telomere as the Major Determinant of the Onset of Replicative Senescence. Genetics, 2013, 194, 847-857.	2.9	69
20	Calcium Dynamics in Dendritic Spines and Spine Motility. Biophysical Journal, 2004, 87, 81-91.	0.5	68
21	Engrailed homeoprotein recruits the adenosine A1 receptor to potentiate ephrin A5 function in retinal growth cones. Development (Cambridge), 2012, 139, 215-224.	2.5	67
22	Dynamic regulation of spine-dendrite coupling in cultured hippocampal neurons. European Journal of Neuroscience, 2004, 20, 2649-2663.	2.6	66
23	The new nanophysiology: regulation of ionic flow in neuronal subcompartments. Nature Reviews Neuroscience, 2015, 16, 685-692.	10.2	65
24	Syntaxin1A Lateral Diffusion Reveals Transient and Local SNARE Interactions. Journal of Neuroscience, 2011, 31, 17590-17602.	3.6	59
25	Gated Narrow Escape Time for Molecular Signaling. Physical Review Letters, 2009, 103, 148102.	7.8	58
26	Structural Fluctuations of the Chromatin Fiber within Topologically Associating Domains. Biophysical Journal, 2016, 110, 1234-1245.	0.5	58
27	The structure and global distribution of the endoplasmic reticulum network are actively regulated by lysosomes. Science Advances, 2020, 6, .	10.3	58
28	Stability Analysis of Second-Order Switched Homogeneous Systems. SIAM Journal on Control and Optimization, 2002, 41, 1609-1625.	2.1	56
29	Quantifying Neurite Growth Mediated by Interactions among Secretory Vesicles, Microtubules, and Actin Networks. Biophysical Journal, 2009, 96, 840-857.	0.5	55
30	Barriers to Diffusion in Dendrites and Estimation of Calcium Spread Following Synaptic Inputs. PLoS Computational Biology, 2011, 7, e1002182.	3.2	54
31	Narrow escape through a funnel and effective diffusion on a crowded membrane. Physical Review E, 2011, 84, 021906.	2.1	53
32	Stochastic Narrow Escape in Molecular and Cellular Biology. , 2015, , .		53
33	Redundancy principle and the role of extreme statistics in molecular and cellular biology. Physics of Life Reviews, 2019, 28, 52-79.	2.8	52
34	Control of flux by narrow passages and hidden targets in cellular biology. Reports on Progress in Physics, 2013, 76, 074601.	20.1	51
35	Diffusion in a dendritic spine: The role of geometry. Physical Review E, 2007, 76, 021922.	2.1	50
36	Robust network oscillations during mammalian respiratory rhythm generation driven by synaptic dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9728-9733.	7.1	49

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37	Calcium dynamics in dendritic spines, modeling and experiments. Cell Calcium, 2005, 37, 467-475.	2.4	48
38	Narrow escape and leakage of Brownian particles. Physical Review E, 2008, 78, 051111.	2.1	48
39	Stochastic chemical reactions in microdomains. Journal of Chemical Physics, 2005, 122, 114710.	3.0	47
40	Time scale of diffusion in molecular and cellular biology. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 173001.	2.1	47
41	Transient Confinement of CaV2.1 Ca2+-Channel Splice Variants Shapes Synaptic Short-Term Plasticity. Neuron, 2019, 103, 66-79.e12.	8.1	47
42	Diffusion escape through a cluster of small absorbing windows. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 155001.	2.1	46
43	Survival probability of diffusion with trapping in cellular neurobiology. Physical Review E, 2005, 72, 031910.	2.1	44
44	Diffusion laws in dendritic spines. Journal of Mathematical Neuroscience, 2011, 1, 10.	2.4	44
45	Polymer model with long-range interactions: Analysis and applications to the chromatin structure. Physical Review E, 2013, 88, 052604.	2.1	43
46	Computation of the Mean First-Encounter Time Between the Ends of a Polymer Chain. Physical Review Letters, 2012, 109, 108302.	7.8	40
47	Longitudinal Diffusion in Retinal Rod and Cone Outer Segment Cytoplasm: The Consequence of Cell Structure. Biophysical Journal, 2004, 86, 2566-2582.	0.5	38
48	The Limit of Photoreceptor Sensitivity. Journal of General Physiology, 2005, 125, 641-660.	1.9	38
49	Polymer physics of nuclear organization and function. Physics Reports, 2017, 678, 1-83.	25.6	38
50	Deconvolution of Voltage Sensor Time Series and Electro-diffusion Modeling Reveal the Role of Spine Geometry in Controlling Synaptic Strength. Neuron, 2018, 97, 1126-1136.e10.	8.1	38
51	Analysis of Single Locus Trajectories for Extracting In Vivo Chromatin Tethering Interactions. PLoS Computational Biology, 2015, 11, e1004433.	3.2	37
52	Quantitative analysis of virus and plasmid trafficking in cells. Physical Review E, 2009, 79, 011921.	2.1	36
53	Transient chromatin properties revealed by polymer models and stochastic simulations constructed from Chromosomal Capture data. PLoS Computational Biology, 2017, 13, e1005469.	3.2	35
54	Spatial telomere organization and clustering in yeast <i>Saccharomyces cerevisiae</i> nucleus is generated by a random dynamics of aggregationâ€“dissociation. Molecular Biology of the Cell, 2013, 24, 1791-1800.	2.1	34

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55	Fast calcium transients in dendritic spines driven by extreme statistics. PLoS Biology, 2019, 17, e2006202.	5.6	34
56	Asymptotic Formulas for Extreme Statistics of Escape Times in 1, 2 and 3-Dimensions. Journal of Nonlinear Science, 2019, 29, 461-499.	2.1	34
57	Modeling the Step of Endosomal Escape during Cell Infection byÂa Nonenveloped Virus. Biophysical Journal, 2012, 102, 980-989.	0.5	33
58	Detection of single photons by toad and mouse rods. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19378-19383.	7.1	33
59	Advances Using Single-Particle Trajectories to Reconstruct Chromatin Organization and Dynamics. Trends in Genetics, 2019, 35, 685-705.	6.7	33
60	Modeling the Spontaneous Activity of the Auditory Cortex. Journal of Computational Neuroscience, 2005, 19, 357-378.	1.0	32
61	Modeling DNA and Virus Trafficking in the Cell Cytoplasm. Journal of Statistical Physics, 2007, 127, 471-494.	1.2	32
62	Physical principles and models describing intracellular virus particle dynamics. Current Opinion in Microbiology, 2009, 12, 439-445.	5.1	32
63	Effective Motion of a Virus Trafficking Inside a Biological Cell. SIAM Journal on Applied Mathematics, 2008, 68, 1146-1167.	1.8	31
64	Diffusing Polymers in Confined Microdomains and Estimation of Chromosomal Territory Sizes from Chromosome Capture Data. Physical Review Letters, 2013, 110, 248105.	7.8	30
65	Residence Times of Receptors in Dendritic Spines Analyzed by Stochastic Simulations in Empirical Domains. Biophysical Journal, 2014, 107, 3008-3017.	0.5	30
66	Analysis and Interpretation of Superresolution Single-Particle Trajectories. Biophysical Journal, 2015, 109, 1761-1771.	0.5	30
67	Dissection of a Krox20 positive feedback loop driving cell fate choices in hindbrain patterning. Molecular Systems Biology, 2013, 9, 690.	7.2	29
68	Quantifying intermittent transport in cell cytoplasm. Physical Review E, 2008, 77, 030901.	2.1	28
69	Transcription factor search for a DNA promoter in a three-state model. Physical Review E, 2011, 84, 020901.	2.1	28
70	Statistical Methods for Large Ensembles of Super-Resolution Stochastic Single Particle Trajectories in Cell Biology. Annual Review of Statistics and Its Application, 2017, 4, 189-223.	7.0	28
71	Diffusion through a cluster of small windows and flux regulation in microdomains. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3768-3772.	2.1	27
72	Asymmetry Between Pre- and Postsynaptic Transient Nanodomains Shapes Neuronal Communication. Trends in Neurosciences, 2020, 43, 182-196.	8.6	27

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73	Dwell time of a Brownian molecule in a microdomain with traps and a small hole on the boundary. Journal of Chemical Physics, 2007, 126, 234107.	3.0	26
74	Narrow escape for a stochastically gated Brownian ligand. Journal of Physics Condensed Matter, 2010, 22, 065103.	1.8	26
75	Modeling Calcium Dynamics in Dendritic Spines. SIAM Journal on Applied Mathematics, 2005, 65, 1006-1026.	1.8	25
76	How rods respond to single photons: Key adaptations of a Gâ€protein cascade that enable vision at the physical limit of perception. BioEssays, 2015, 37, 1243-1252.	2.5	25
77	100 years after Smoluchowski: stochastic processes in cell biology. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 093002.	2.1	24
78	Statistics of randomly cross-linked polymer models to interpret chromatin conformation capture data. Physical Review E, 2017, 96, 012503.	2.1	24
79	Narrow escape time to a structured target located on the boundary of a microdomain. Journal of Chemical Physics, 2009, 130, 094909.	3.0	23
80	Extended Narrow Escape with Many Windows for Analyzing Viral Entry into the Cell Nucleus. Journal of Statistical Physics, 2017, 166, 244-266.	1.2	23
81	Extreme Narrow Escape: Shortest paths for the first particles among n to reach a target window. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 3449-3454.	2.1	23
82	Alpha rhythm collapse predicts iso-electric suppressions during anesthesia. Communications Biology, 2019, 2, 327.	4.4	23
83	Preface: new trends in first-passage methods and applications in the life sciences and engineering. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 190301.	2.1	23
84	A Mechanism for the Polarity Formation of Chemoreceptors at the Growth Cone Membrane for Gradient Amplification during Directional Sensing. PLoS ONE, 2010, 5, e9243.	2.5	22
85	Analysis of the Poissonâ€"Nernstâ€"Planck equation in a ball for modeling the Voltageâ€"Current relation in neurobiological microdomains. Physica D: Nonlinear Phenomena, 2017, 339, 39-48.	2.8	22
86	The First 100 nm Inside the Pre-synaptic Terminal Where Calcium Diffusion Triggers Vesicular Release. Frontiers in Synaptic Neuroscience, 2018, 10, 23.	2.5	21
87	Threshold activation for stochastic chemical reactions in microdomains. Physical Review E, 2010, 81, 041107.	2.1	20
88	Using default constraints of the spindle assembly checkpoint to estimate the associated chemical rates. BMC Biophysics, 2012, 5, 1.	4.4	20
89	Wave kernels related to second-order operators. Duke Mathematical Journal, 2002, 114, 329.	1.5	19
90	Estimating the Synaptic Current in a Multiconductance AMPA Receptor Model. Biophysical Journal, 2011, 101, 781-792.	0.5	18

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91	Why so many sperm cells?. Communicative and Integrative Biology, 2015, 8, e1017156.	1.4	18
92	Search for a small egg by spermatozoa in restricted geometries. Journal of Mathematical Biology, 2016, 73, 423-446.	1.9	18
93	Modeling homeoprotein intercellular transfer unveils a parsimonious mechanism for gradient and boundary formation in early brain development. Journal of Theoretical Biology, 2007, 249, 503-517.	1.7	17
94	Brownian Motion in Dire Straits. Multiscale Modeling and Simulation, 2012, 10, 1204-1231.	1.6	17
95	Recovering a stochastic process from super-resolution noisy ensembles of single-particle trajectories. Physical Review E, 2015, 92, 052109.	2.1	16
96	Hybrid Markov-mass action law model for cell activation by rare binding events: Application to calcium induced vesicular release at neuronal synapses. Scientific Reports, 2016, 6, 35506.	3.3	16
97	Encounter dynamics of a small target by a polymer diffusing in a confined domain. Journal of Chemical Physics, 2012, 137, 244906.	3.0	15
98	Computational and mathematical methods for morphogenetic gradient analysis, boundary formation and axonal targeting. Seminars in Cell and Developmental Biology, 2014, 35, 189-202.	5.0	15
99	Synaptic dynamics and neuronal network connectivity are reflected in the distribution of times in Up states. Frontiers in Computational Neuroscience, 2015, 9, 96.	2.1	15
100	Stochastic Model of Acidification, Activation of Hemagglutinin and Escape of Influenza Viruses from an Endosome. Frontiers in Physics, 2017, 5, .	2.1	15
101	The Dynamics of Phosphodiesterase Activation in Rods and Cones. Biophysical Journal, 2008, 94, 1954-1970.	0.5	14
102	Fastest among equals: a novel paradigm in biology. Physics of Life Reviews, 2019, 28, 96-99.	2.8	14
103	The search for a DNA target in the nucleus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 466-471.	2.1	13
104	Some questions related to modeling in cellular biology. Journal of Fixed Point Theory and Applications, 2010, 7, 67-83.	1.1	13
105	Modeling the Early Steps of Cytoplasmic Trafficking in Viral Infection and Gene Delivery. SIAM Journal on Applied Mathematics, 2011, 71, 2334-2358.	1.8	13
106	The Mean First Rotation Time of a Planar Polymer. Journal of Statistical Physics, 2011, 143, 1074-1095.	1.2	13
107	Mixed analytical-stochastic simulation method for the recovery of a Brownian gradient source from probability fluxes to small windows. Journal of Computational Physics, 2018, 355, 22-36.	3.8	13
108	Post-replicative pairing of sister ter regions in Escherichia coli involves multiple activities of MatP. Nature Communications, 2020, 11, 3796.	12.8	13

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109	Nanoscale molecular architecture controls calcium diffusion and ER replenishment in dendritic spines. Science Advances, 2021, 7, eabh1376.	10.3	13
110	Adaptive Single-Channel EEG Artifact Removal With Applications to Clinical Monitoring. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 286-295.	4.9	13
111	Diffusion in narrow domains and application to phototransduction. Physical Review E, 2009, 79, 030904.	2.1	12
112	Coagulationâ€“fragmentation for a finite number of particles and application to telomere clustering in the yeast nucleus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 845-849.	2.1	12
113	Electrostatics of non-neutral biological microdomains. Scientific Reports, 2017, 7, 11269.	3.3	12
114	Bursting Reverberation as a Multiscale Neuronal Network Process Driven by Synaptic Depression-Facilitation. PLoS ONE, 2015, 10, e0124694.	2.5	12
115	Solutions nodales sur les variÃ©tÃ©s Riemanniennes. Journal of Functional Analysis, 1999, 161, 219-245.	1.4	11
116	Estimating the rate constant of cyclic GMP hydrolysis by activated phosphodiesterase in photoreceptors. Journal of Chemical Physics, 2008, 129, 145102.	3.0	11
117	The Narrow Escape Problem in a Flat Cylindrical Microdomain with Application to Diffusion in the Synaptic Cleft. Multiscale Modeling and Simulation, 2011, 9, 793-816.	1.6	11
118	Brownian needle in dire straits: Stochastic motion of a rod in very confined narrow domains. Physical Review E, 2012, 85, 010103.	2.1	11
119	Unraveling novel features hidden in superresolution microscopy data. Communicative and Integrative Biology, 2013, 6, e23893.	1.4	11
120	Statistics of chromatin organization during cell differentiation revealed by heterogeneous cross-linked polymers. Nature Communications, 2019, 10, 2626.	12.8	11
121	Active flow network generates molecular transport by packets: case of the endoplasmic reticulum. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200493.	2.6	11
122	Statistical evaluation of clusters derived by nonlinear mapping of EEG spatial patterns. Journal of Neuroscience Methods, 1999, 90, 87-95.	2.5	10
123	Morphogenetic Gradients and the Stability of Boundaries Between Neighboring Morphogenetic Regions. Bulletin of Mathematical Biology, 2008, 70, 156-178.	1.9	10
124	The probability of an encounter of two Brownian particles before escape. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 315210.	2.1	10
125	Synaptic transmission in neurological disorders dissected by a quantitative approach. Communicative and Integrative Biology, 2012, 5, 448-452.	1.4	10
126	Brownian search for targets hidden in cusp-like pockets: Progress and Applications. European Physical Journal: Special Topics, 2014, 223, 3273-3285.	2.6	8

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127	Kinetics of aggregation with a finite number of particles and application to viral capsid assembly. Journal of Mathematical Biology, 2015, 70, 1685-1705.	1.9	8
128	Two loci single particle trajectories analysis: constructing a first passage time statistics of local chromatin exploration. Scientific Reports, 2017, 7, 10346.	3.3	8
129	Singular perturbation for the first eigenfunction and blow-up analysis. Forum Mathematicum, 2006, 18, .	0.7	7
130	Multiscale models and stochastic simulation methods for computing rare but key binding events in cell biology. Journal of Computational Physics, 2017, 340, 617-638.	3.8	7
131	Stochastic modeling of gene activation and applications to cell regulation. Journal of Theoretical Biology, 2011, 271, 51-63.	1.7	6
132	Computing the Length of the Shortest Telomere in the Nucleus. Physical Review Letters, 2013, 111, 228104.	7.8	6
133	Modeling capsid kinetics assembly from the steady state distribution of multi-sizes aggregates. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 531-534.	2.1	6
134	Encounter times of chromatin loci influenced by polymer decondensation. Physical Review E, 2018, 97, 032417.	2.1	6
135	Reconstructing the gradient source position from steady-state fluxes to small receptors. Scientific Reports, 2018, 8, 941.	3.3	6
136	Modeling bursting in neuronal networks using facilitation-depression and afterhyperpolarization. Communications in Nonlinear Science and Numerical Simulation, 2021, 94, 105555.	3.3	6
137	Prescribed scalar curvature problem on complete manifolds. Journal Des Mathematiques Pures Et Appliquees, 2001, 80, 223-244.	1.6	5
138	Search Time for a Small Ribbon and Application to Vesicular Release at Neuronal Synapses. Multiscale Modeling and Simulation, 2015, 13, 1173-1193.	1.6	5
139	Coagulation-Fragmentation with a Finite Number of Particles: Models, Stochastic Analysis, and Applications to Telomere Clustering and Viral Capsid Assembly. , 2017, , 205-239.		5
140	Asymptotics of Elliptic and Parabolic PDEs. Applied Mathematical Sciences (Switzerland), 2018, , .	0.8	5
141	Biophysics of high density nanometer regions extracted from super-resolution single particle trajectories: application to voltage-gated calcium channels and phospholipids. Scientific Reports, 2019, 9, 18818.	3.3	5
142	Combining transient statistical markers from the EEG signal to predict brain sensitivity to general anesthesia. Biomedical Signal Processing and Control, 2022, 77, 103713.	5.7	5
143	Kinetics of Diffusing Polymer Encounter in Confined Cellular Microdomains. Journal of Statistical Physics, 2013, 153, 1107-1131.	1.2	4
144	Reconstruction of Surface and Stochastic Dynamics from a Planar Projection of Trajectories. SIAM Journal on Imaging Sciences, 2013, 6, 2430-2449.	2.2	4

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145	Oscillatory decay of the survival probability of activated diffusion across a limit cycle. Physical Review E, 2014, 89, 030101.	2.1	4
146	Post-transcriptional regulation in the nucleus and cytoplasm: study of mean time to threshold (MTT) and narrow escape problem. Journal of Mathematical Biology, 2015, 70, 805-828.	1.9	4
147	Oscillatory Survival Probability: Analytical and Numerical Study of a Non-Poissonian Exit Time. Multiscale Modeling and Simulation, 2016, 14, 772-798.	1.6	4
148	Geometrical Effects on Nonlinear Electrodiffusion in Cell Physiology. Journal of Nonlinear Science, 2017, 27, 1971-2000.	2.1	4
149	Emergence and fragmentation of the alpha-band driven by neuronal network dynamics. PLoS Computational Biology, 2021, 17, e1009639.	3.2	4
150	Nonlinear PDE with vector fields. Journal D'Analyse Mathematique, 2000, 81, 111-137.	0.8	3
151	Analysis of the Mean First Looping Time of a Rod-Polymer. Multiscale Modeling and Simulation, 2012, 10, 612-632.	1.6	3
152	Oscillatory Survival Probability and Eigenvalues of the Non-Self-Adjoint Fokker--Planck Operator. Multiscale Modeling and Simulation, 2014, 12, 1294-1308.	1.6	3
153	Electrical transient laws in neuronal microdomains based on electro-diffusion. Physical Chemistry Chemical Physics, 2018, 20, 21062-21067.	2.8	3
154	Steady-state voltage distribution in three-dimensional cusp-shaped funnels modeled by PNP. Journal of Mathematical Biology, 2019, 79, 155-185.	1.9	3
155	Triangulation Sensing to Determine the Gradient Source from Diffusing Particles to Small Cell Receptors. Physical Review Letters, 2020, 125, 148102.	7.8	3
156	Asymptotics for the fastest among N stochastic particles: role of an extended initial distribution and an additional drift component. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 285601.	2.1	3
157	Reconstructing a point source from diffusion fluxes to narrow windows in three dimensions. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210271.	2.1	3
158	Exit Versus Escape for Stochastic Dynamical Systems and Application to the Computation of the Bursting Time Duration in Neuronal Networks. Journal of Nonlinear Science, 2022, 32, 1.	2.1	3
159	Singular perturbations and first order PDE on manifolds. Comptes Rendus Mathematique, 2001, 333, 465-470.	0.5	2
160	Concentration of the first eigenfunction for a second order elliptic operator. Comptes Rendus Mathematique, 2005, 341, 243-246.	0.3	2
161	Do cells sense time by number of divisions?. Journal of Theoretical Biology, 2018, 452, 10-16.	1.7	2
162	Electrodiffusion Theory to Map the Voltage Distribution in Dendritic Spines at a Nanometer Scale. Neuron, 2019, 104, 440-441.	8.1	2

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163	Extreme escape from a cusp: When does geometry matter for the fastest Brownian particles moving in crowded cellular environments?. Journal of Chemical Physics, 2020, 152, 134104.	3.0	2
164	Escape from an attractor generated by recurrent exit. Physical Review Research, 2021, 3, .	3.6	2
165	Physics meets biology: The joining of two forces to further our understanding of cellular function. Molecular Cell, 2021, 81, 3033-3037.	9.7	2
166	Deconvolution of Voltage Sensor Time Series and Electro-Diffusion Modeling of Synaptic Input in Dendritic Spines. SSRN Electronic Journal, 0, , .	0.4	2
167	The boundary between compact and noncompact complete Riemann manifolds. Indiana University Mathematics Journal, 2007, 56, 437-458.	0.9	1
168	Commentary: New mathematical physics needed for life sciences. Physics Today, 2016, 69, 10-12.	0.3	1
169	The Poissonâ€"Nernstâ€"Planck Equations in a Ball. Applied Mathematical Sciences (Switzerland), 2018, , 341-383.	0.8	1
170	Reply to â€˜Only negligible deviations from electroneutrality are expected in dendritic spinesâ€™. Nature Reviews Neuroscience, 2020, 21, 54-55.	10.2	1
171	Modeling the voltage distribution in a non-locally but globally electroneutral confined electrolyte medium: applications for nanophysiology. Journal of Mathematical Biology, 2021, 82, 65.	1.9	1
172	Topographical Guidance of Highly Motile Amoeboid Cell Migration. Biophysical Journal, 2020, 118, 606a.	0.5	1
173	High-Throughput Super-Resolution Single Particle Trajectory Analysis Reconstructs Organelle Dynamics and Membrane Re-Organization. SSRN Electronic Journal, 0, , .	0.4	1
174	EDP non linÃ©aires avec champ de vecteurs. Comptes Rendus Mathematique, 1999, 329, 871-876.	0.5	0
175	Influence de la masse sur les solutions nodales d'EDP non linÃ©aires. Bulletin Des Sciences Mathematiques, 2000, 124, 385-414.	1.0	0
176	Perturbation methods and first-order partial differential equations on Riemannian manifolds. Quarterly Journal of Mathematics, 2005, 56, 65-93.	0.8	0
177	Semi-classical limits of the first eigenfunction and concentration on the recurrent sets of a dynamical system. Forum Mathematicum, 2011, 23, 1-74.	0.7	0
178	Multiscale modeling, stochastic and asymptotic approaches for analyzing neural networks based on synaptic dynamics. ESAIM Proceedings and Surveys, 2014, 47, 36-54.	0.4	0
179	Elementary Theory of Stochastic Narrow Escape. , 2015, , 1-44.		0
180	Narrow Escape in Other Cellular Processes. , 2015, , 183-201.		0

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181	Modeling the Early Steps of Viral Infection in Cells. , 2015, , 203-245.		0
182	Modeling and Stochastic Analysis of the Single Photon Response. , 2017, , 315-348.		0
183	Mobile Calcium Channels Contribute to Variability of Pre-synaptic Transmitter Release. Biophysical Journal, 2018, 114, 152a-153a.	0.5	0
184	Stochastic coagulation-fragmentation processes with a finite number of particles and applications. Annals of Applied Probability, 2018, 28, .	1.3	0
185	Single Particle Trajectories Reveal Active Endoplasmic Reticulum Luminal Flow. Biophysical Journal, 2019, 116, 173a-174a.	0.5	0
186	Chromatin stability generated by stochastic binding and unbinding of cross-linkers at looping sites revealed by Markov models. Physical Biology, 2021, 18, 046006.	1.8	0
187	Applications to Cellular Biology and Simulations. , 2015, , 113-134.		0
188	Random Search with Switching. , 2015, , 169-182.		0
189	NET in Molecular and Cellular Biology. , 2015, , 95-112.		0
190	Analysis of Chromatin Dynamics and Search Processes in the Nucleus. , 2019, , 177-206.		0
191	Chemical Reactions for Molecular and Cellular Biology. , 2019, , 353-407.		0
192	Monitoring and Predicting SARS-CoV-2 Epidemic in France after Deconfinement Using a Multiscale and Age-Dependent Model. SSRN Electronic Journal, 0, , .	0.4	0
193	Modelling and asymptotic analysis of the concentration difference in a nanoregion between an influx andoutflux diffusion acrossnarrow windows. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	2.1	0
194	Calcium Dynamics in Neuronal Microdomains: Modeling, Stochastic Simulations, and Data Analysis. , 2022, , 612-641.		0