Olivier BÃ©nichou

List of Publications by Year
in descending order

100 papers	6,218 citations	81900 39 h-index	69250 77 g-index
100 all docs	100 docs citations	100 times ranked	3101 citing authors

#	Article	IF	Citations
1	Microscopic Theory for the Diffusion of an Active Particle in a Crowded Environment. Physical Review Letters, 2022, 128, 038001.	7.8	11
2	Statistics of the maximum and the convex hull of a Brownian motion in confined geometries. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 144002.	2.1	1
3	Self-Interacting Random Walks: Aging, Exploration, and First-Passage Times. Physical Review X, 2022, 12, .	8.9	5
4	Exact closure and solution for spatial correlations in single-file diffusion. Science Advances, 2022, 8, eabm5043.	10.3	14
5	Joint statistics of space and time exploration of one-dimensional random walks. Physical Review E, 2022, 105, 034116.	2.1	6
6	Exact time dependence of the cumulants of a tracer position in a dense lattice gas. Physical Review E, 2022, 105, .	2.1	2
7	Complete visitation statistics of one-dimensional random walks. Physical Review E, 2022, 105, .	2.1	4
8	Distribution of the span of one-dimensional confined random processes before hitting a target. Physical Review E, 2021, 103, 032107.	2.1	8
9	Cell migration guided by long-lived spatial memory. Nature Communications, 2021, 12, 4118.	12.8	32
10	Binary lattice-gases of particles with soft exclusion: exact phase diagrams for tree-like lattices. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 385003.	2.1	0
11	Universal kinetics of imperfect reactions in confinement. Communications Chemistry, 2021, 4, .	4.5	10
12	Generalized Correlation Profiles in Single-File Systems. Physical Review Letters, 2021, 127, 220601.	7.8	18
13	Anomalous persistence exponents for normal yet aging diffusion. Physical Review E, 2020, 102, 062115.	2.1	8
14	Superionic liquids in conducting nanoslits: A variety of phase transitions and ensuing charging behavior. Journal of Chemical Physics, 2019, 151, 184105.	3.0	9
15	Order-disorder transitions in lattice gases with annealed reactive constraints. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 043206.	2.3	5
16	Tracer diffusion in crowded narrow channels. Journal of Physics Condensed Matter, 2018, 30, 443001.	1.8	34
17	Universal first-passage statistics in aging media. Physical Review E, 2018, 98, 022125.	2.1	22
18	N-tag probability law of the symmetric exclusion process. Physical Review E, 2018, 97, 062119.	2.1	5

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19	Mean first-passage time of an anisotropic diffusive searcher. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 024001.	2.1	2
20	Optimal search strategies of run-and-tumble walks. Physical Review E, 2016, 94, 012117.	2.1	34
21	Nonlinear response and emerging nonequilibrium microstructures for biased diffusion in confined crowded environments. Physical Review E, 2016, 93, 032128.	2.1	37
22	Mean first-passage times of non-Markovian random walkers in confinement. Nature, 2016, 534, 356-359.	27.8	105
23	Distribution of the position of a driven tracer in a hardcore lattice gas. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P11016.	2.3	11
24	Exit Time Distribution in Spherically Symmetric Two-Dimensional Domains. Journal of Statistical Physics, 2015, 158, 192-230.	1.2	43
25	Cover times of random searches. Nature Physics, 2015, 11, 844-847.	16.7	83
26	Cell migration and antigen capture are antagonistic processes coupled by myosin II in dendritic cells. Nature Communications, 2015, 6, 7526.	12.8	143
27	Probing the target search of DNA-binding proteins in mammalian cells using TetR as model searcher. Nature Communications, 2015, 6, 7357.	12.8	171
28	Survival probability of a Brownian motion in a planar wedge of arbitrary angle. Physical Review E, 2015, 91, 032106.	2.1	14
29	Mean first-passage times in confined media: from Markovian to non-Markovian processes. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 163001.	2.1	39
30	Single-molecule tracking in live cells reveals distinct target-search strategies of transcription factors in the nucleus. ELife, 2014, 3, .	6.0	273
31	Generalized Langevin equations for a driven tracer in dense soft colloids: construction and applications. New Journal of Physics, 2014, 16, 053032.	2.9	49
32	Splitting probabilities and interfacial territory covered by two-dimensional and three-dimensional surface-mediated diffusion. Physical Review E, 2014, 89, 012149.	2.1	10
33	Mean cover time of one-dimensional persistent random walks. Physical Review E, 2014, 89, 062129.	2.1	7
34	From first-passage times of random walks in confinement to geometry-controlled kinetics. Physics Reports, 2014, 539, 225-284.	25.6	197
35	Velocity Anomaly of a Driven Tracer in a Confined Crowded Environment. Physical Review Letters, 2014, 113, 030603.	7.8	17
36	Accelerating search kinetics by following boundaries. Physical Review Letters, 2014, 112, 230601.	7.8	17

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37	First-Passage Times of Intermittent Random Walks. , 2014, , 70-95.		0
38	First-Passage Statistics for Random Walks in Bounded Domains. , 2014, , 145-174.		1
39	Active Transport in Dense Diffusive Single-File Systems. Physical Review Letters, 2013, 111, 038102.	7.8	63
40	Anomalous field-induced growth of fluctuations in dynamics of a biased intruder moving in a quiescent medium. Physical Review E, 2013, 87, 020103.	2.1	14
41	Geometry-Induced Superdiffusion in Driven Crowded Systems. Physical Review Letters, 2013, 111, 260601.	7.8	74
42	Reactive conformations and non-Markovian reaction kinetics of a Rouse polymer searching for a target in confinement. Physical Review E, 2013, 87, .	2.1	17
43	Fluctuations and correlations of a driven tracer in a hard-core lattice gas. Physical Review E, 2013, 87, .	2.1	14
44	A biased intruder in a dense quiescent medium: looking beyond the force–velocity relation. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P05008.	2.3	27
45	Exact calculations of first-passage quantities on recursive networks. Physical Review E, 2012, 85, 026113.	2.1	75
46	Interfacial territory covered by surface-mediated diffusion. Physical Review E, 2012, 85, 051111.	2.1	11
47	On the invariance of spatially inhomogeneous relaxation processes. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 015003.	2.1	3
48	Optimizing Persistent Random Searches. Physical Review Letters, 2012, 108, 088103.	7.8	78
49	Non-Markovian polymer reaction kinetics. Nature Chemistry, 2012, 4, 568-573.	13.6	97
50	Geometry-Induced Bursting Dynamics in Gene Expression. Biophysical Journal, 2012, 102, 2186-2191.	0.5	28
51	Spatial log-periodic oscillations of first-passage observables in fractals. Physical Review E, 2012, 86, 061125.	2.1	23
52	Classes of fast and specific search mechanisms for proteins on DNA. Reports on Progress in Physics, 2012, 75, 026601.	20.1	102
53	Kinetics of Active Surface-Mediated Diffusion in Spherically Symmetric Domains. Journal of Statistical Physics, 2012, 147, 891-918.	1.2	37
54	Facilitated Diffusion of Proteins on Chromatin. Physical Review Letters, 2011, 106, 038102.	7.8	62

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55	Intermittent search strategies. Reviews of Modern Physics, 2011, 83, 81-129.	45.6	571
56	First-passage quantities of Brownian motion in a bounded domain with multiple targets: a unified approach. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 025002.	2.1	61
57	Residual mean first-passage time for jump processes: theory and applications to Lévy flights and fractional Brownian motion. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 255003.	2.1	13
58	Encounter distribution of two random walkers on a finite one-dimensional interval. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 395005.	2.1	19
59	Universality classes of first-passage-time distribution in confined media. Physical Review E, 2011, 83, 051116.	2.1	40
60	Mean First-Passage Time of Surface-Mediated Diffusion in Spherical Domains. Journal of Statistical Physics, 2011, 142, 657-685.	1.2	65
61	Close or connected: Distance and connectivity effects on transport in networks. Physical Review E, 2011, 83, 066102.	2.1	36
62	Geometry-controlled kinetics. Nature Chemistry, 2010, 2, 472-477.	13.6	295
63	Optimal Reaction Time for Surface-Mediated Diffusion. Physical Review Letters, 2010, 105, 150606.	7.8	112
64	First-passage time distribution for a random walker on a random forcing energy landscape. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P09005.	2.3	4
65	Response to targeted perturbations for random walks on networks. Physical Review E, 2010, 82, 056106.	2.1	4
66	Robustness of optimal intermittent search strategies in one, two, and three dimensions. Physical Review E, 2009, 80, 031146.	2.1	41
67	Global mean first-passage times of random walks on complex networks. Physical Review E, 2009, 80, 065104.	2.1	148
68	Dynamical and spatial disorder in an intermittent search process. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434007.	2.1	5
69	Optimization of the residence time of a Brownian particle in a spherical subdomain. Journal of Chemical Physics, 2009, 131, 181104.	3.0	7
70	Searching Fast for a Target on DNA without Falling to Traps. Physical Review Letters, 2009, 103, 138102.	7.8	75
71	Reaction kinetics in active media. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02045.	2.3	6
72	Enhanced reaction kinetics in biological cells. Nature Physics, 2008, 4, 134-137.	16.7	155

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73	Narrow-Escape Time Problem: Time Needed for a Particle to Exit a Confining Domain through a Small Window. Physical Review Letters, 2008, 100, 168105.	7.8	147
74	Optimizing intermittent reaction paths. Physical Chemistry Chemical Physics, 2008, 10, 7059.	2.8	53
75	Probing microscopic origins of confined subdiffusion by first-passage observables. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5675-5680.	7.1	179
76	How gene colocalization can be optimized by tuning the diffusion constant of transcription factors. Europhysics Letters, 2008, 84, 38003.	2.0	13
77	Zero Constant Formula for First-Passage Observables in Bounded Domains. Physical Review Letters, 2008, 101, 130601.	7.8	39
78	Intermittent search process and teleportation. Journal of Chemical Physics, 2007, 126, 234109.	3.0	28
79	A minimal model of intermittent search in dimension two. Journal of Physics Condensed Matter, 2007, 19, 065141.	1.8	41
80	Occupation times of random walks in confined geometries: From random trap model to diffusion-limited reactions. Physical Review E, 2007, 76, 050102.	2.1	17
81	Intermittent search processes in disordered medium. Europhysics Letters, 2007, 77, 20006.	2.0	15
82	Random walks and Brownian motion: A method of computation for first-passage times and related quantities in confined geometries. Physical Review E, 2007, 75, 021111.	2.1	95
83	First-Passage Time Distributions for Subdiffusion in Confined Geometry. Physical Review Letters, 2007, 98, 250602.	7.8	60
84	First-passage times in complex scale-invariant media. Nature, 2007, 450, 77-80.	27.8	520
85	Two-dimensional intermittent search processes: An alternative to LÃ©vy flight strategies. Physical Review E, 2006, 74, 020102.	2.1	138
86	Intermittent search strategies: When losing time becomes efficient. Europhysics Letters, 2006, 75, 349-354.	2.0	56
87	Mean joint residence time of two Brownian particles in a sphere. Journal of Physics A, 2005, 38, 7205-7214.	1.6	10
88	First-exit times and residence times for discrete random walks on finite lattices. Physical Review E, 2005, 72, 016127.	2.1	20
89	Kinetics of diffusion-limited catalytically activated reactions: An extension of the Wilemskiâ€"Fixman approach. Journal of Chemical Physics, 2005, 123, 194506.	3.0	24
90	First-Passage Times for Random Walks in Bounded Domains. Physical Review Letters, 2005, 95, 260601.	7.8	144

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91	Optimal Search Strategies for Hidden Targets. Physical Review Letters, 2005, 94, 198101.	7.8	270
92	Averaged residence times of stochastic motions in bounded domains. Europhysics Letters, 2005, 70, 42-48.	2.0	66
93	A stochastic model for intermittent search strategies. Journal of Physics Condensed Matter, 2005, 17, S4275-S4286.	1.8	40
94	Kinetics of Target Site Localization of a Protein on DNA: A Stochastic Approach. Biophysical Journal, 2004, 87, 1640-1649.	0.5	204
95	Ultraslow vacancy-mediated tracer diffusion in two dimensions: The Einstein relation verified. Physical Review E, 2002, 66, 031101.	2.1	49
96	Force-velocity relation and density profiles for biased diffusion in an adsorbed monolayer. Physical Review B, 2001, 63, .	3.2	26
97	Stokes Formula and Density Perturbances for Driven Tracer Diffusion in an Adsorbed Monolayer. Physical Review Letters, 2000, 84, 511-514.	7.8	32
98	Generalized model for dynamic percolation. Physical Review E, 2000, 62, 3327-3339.	2.1	24
99	Kinetics of stochastically gated diffusion-limited reactions and geometry of random walk trajectories. Physical Review E, 2000, 61, 3388-3406.	2.1	66
100	Directed random walk in adsorbed monolayer. Physica A: Statistical Mechanics and Its Applications, 1999, 272, 56-86.	2.6	13