Chase P Broedersz

List of Publications by Year
in descending order

44 papers	2,470 citations	304368 22 h-index	233125 45 g-index
52 all docs	52 docs citations	52 times ranked	2515 citing authors

#	Article	IF	Citations
1	Criticality and isostaticity in fibre networks. Nature Physics, 2011, 7, 983-988.	6.5	266
2	Broken detailed balance at mesoscopic scales in active biological systems. Science, 2016, 352, 604-607.	6.0	259
3	Cell contraction induces long-ranged stress stiffening in the extracellular matrix. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4075-4080.	3.3	231
4	Broken detailed balance and non-equilibrium dynamics in living systems: a review. Reports on Progress in Physics, 2018, 81, 066601.	8.1	175
5	Origins of Elasticity in Intermediate Filament Networks. Physical Review Letters, 2010, 104, 058101.	2.9	165
6	Fiber networks amplify active stress. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2827-2832.	3.3	143
7	Cross-Link-Governed Dynamics of Biopolymer Networks. Physical Review Letters, 2010, 105, 238101.	2.9	124
8	Divalent Cations Crosslink Vimentin Intermediate Filament Tail Domains to Regulate Network Mechanics. Journal of Molecular Biology, 2010, 399, 637-644.	2.0	98
9	Condensation and localization of the partitioning protein ParB on the bacterial chromosome. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8809-8814.	3.3	96
10	Measurement of nonlinear rheology of cross-linked biopolymer gels. Soft Matter, 2010, 6, 4120.	1.2	91
11	Stochastic nonlinear dynamics of confined cell migration in two-state systems. Nature Physics, 2019, 15, 595-601.	6.5	77
12	Multi-scale strain-stiffening of semiflexible bundle networks. Soft Matter, 2016, 12, 2145-2156.	1.2	72
13	Elasticity in Ionically Cross-Linked Neurofilament Networks. Biophysical Journal, 2010, 98, 2147-2153.	0.2	52
14	Stress-Enhanced Gelation: A Dynamic Nonlinearity of Elasticity. Physical Review Letters, 2013, 110, 018103.	2.9	52
15	Physical limits to biomechanical sensing in disordered fibre networks. Nature Communications, 2017, 8, 16096.	5.8	47
16	Inferring the Dynamics of Underdamped Stochastic Systems. Physical Review Letters, 2020, 125, 058103.	2.9	46
17	Nonlinear Viscoelasticity of Actin Transiently Cross-linked with Mutant Î±-Actinin-4. Journal of Molecular Biology, 2011, 411, 1062-1071.	2.0	42
18	Statistical Mechanics of the US Supreme Court. Journal of Statistical Physics, 2015, 160, 275-301.	0.5	41

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19	Learning the dynamics of cellâ€“cell interactions in confined cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	41
20	Guiding 3D cell migration in deformed synthetic hydrogel microstructures. Soft Matter, 2018, 14, 2816-2826.	1.2	38
21	Area and Geometry Dependence of Cell Migration in Asymmetric Two-State Micropatterns. Biophysical Journal, 2020, 118, 552-564.	0.2	30
22	Nonlinear mechanics of human mitotic chromosomes. Nature, 2022, 605, 545-550.	13.7	30
23	Nonequilibrium Scaling Behavior in Driven Soft Biological Assemblies. Physical Review Letters, 2018, 121, 038002.	2.9	26
24	Disentangling the behavioural variability of confined cell migration. Journal of the Royal Society Interface, 2020, 17, 20190689.	1.5	21
25	Bacterial chromosome organization by collective dynamics of SMC condensins. Journal of the Royal Society Interface, 2018, 15, 20180495.	1.5	20
26	Learning the non-equilibrium dynamics of Brownian movies. Nature Communications, 2020, 11, 5378.	5.8	20
27	Soft viscoelastic properties of nuclear actin age oocytes due to gravitational creep. Scientific Reports, 2015, 5, 16607.	1.6	18
28	A new approach for calculating the true stress response from large amplitude oscillatory shear (LAOS) measurements using parallel plates. Rheologica Acta, 2014, 53, 75-83.	1.1	16
29	Learning the distribution of single-cell chromosome conformations in bacteria reveals emergent order across genomic scales. Nature Communications, 2021, 12, 1963.	5.8	14
30	Stress-dependent amplification of active forces in nonlinear elastic media. Soft Matter, 2019, 15, 331-338.	1.2	12
31	3D printed protein-based robotic structures actuated by molecular motor assemblies. Nature Materials, 2022, 21, 703-709.	13.3	12
32	A lattice kinetic Monte-Carlo method for simulating chromosomal dynamics and other (non-)equilibrium bio-assemblies. Soft Matter, 2020, 16, 544-556.	1.2	10
33	Disentangling cadherin-mediated cell-cell interactions in collective cancer cell migration. Biophysical Journal, 2022, 121, 44-60.	0.2	10
34	Nuclear mechanics. Nucleus, 2013, 4, 156-159.	0.6	9
35	Looping and clustering model for the organization of protein-DNA complexes on the bacterial genome. New Journal of Physics, 2018, 20, 035002.	1.2	9
36	Single Quality Factor for Enthalpyâ€Entropy Compensation, Isoequilibrium and Isokinetic Relationships. ChemPhysChem, 2020, 21, 1632-1643.	1.0	9

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37	Single-cell growth inference of Corynebacterium glutamicum reveals asymptotically linear growth. ELife, 2021, 10, .	2.8	7
38	Scaling behavior of nonequilibrium measures in internally driven elastic assemblies. Physical Review E, 2019, 99, 052406.	0.8	6
39	Nonlinear stress relaxation of transiently crosslinked biopolymer networks. Physical Review E, 2021, 104, 034418.	0.8	6
40	Nonequilibrium dynamics of isostatic spring networks. Physical Review E, 2019, 100, 013002.	0.8	5
41	Fiber plucking by molecular motors yields large emergent contractility in stiff biopolymer networks. Soft Matter, 2019, 15, 1481-1487.	1.2	5
42	Mesoscopic non-equilibrium measures can reveal intrinsic features of the active driving. Soft Matter, 2019, 15, 8067-8076.	1.2	5
43	Theory of Active Intracellular Transport by DNA Relaying. Physical Review Letters, 2021, 127, 138101.	2.9	4
44	Irreversibility in linear systems with colored noise. Physical Review E, 2022, 105, 024118.	0.8	2