Zvonimir Dogic

List of Publications by Year
in descending order

60 papers	6,876 citations	109264 35 h-index	128225 60 g-index
60 all docs	60 docs citations	60 times ranked	5281 citing authors

#	Article	IF	Citations
1	Spontaneous motion in hierarchically assembled active matter. Nature, 2012, 491, 431-434.	13.7	1,077
2	Entropically driven microphase transitions in mixtures of colloidal rods and spheres. Nature, 1998, 393, 349-352.	13.7	485
3	Topology and dynamics of active nematic vesicles. Science, 2014, 345, 1135-1139.	6.0	450
4	Active matter at the interface between materials science and cell biology. Nature Reviews Materials, 2017, 2, .	23.3	384
5	An active biopolymer network controlled by molecular motors. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15192-15197.	3.3	353
6	Ordered phases of filamentous viruses. Current Opinion in Colloid and Interface Science, 2006, 11, 47-55.	3.4	302
7	A Quantitative Analysis of Contractility in Active Cytoskeletal Protein Networks. Biophysical Journal, 2008, 94, 3126-3136.	0.2	274
8	Orientational order of motile defects in activeÂnematics. Nature Materials, 2015, 14, 1110-1115.	13.3	246
9	Cilia-Like Beating of Active Microtubule Bundles. Science, 2011, 333, 456-459.	6.0	240
10	Smectic Phase in a Colloidal Suspension of Semiflexible Virus Particles. Physical Review Letters, 1997, 78, 2417-2420.	2.9	238
11	Cholesteric Phase in Virus Suspensions. Langmuir, 2000, 16, 7820-7824.	1.6	220
12	Reconfigurable self-assembly through chiral control of interfacial tension. Nature, 2012, 481, 348-351.	13.7	206
13	Transition from turbulent to coherent flows in confined three-dimensional active fluids. Science, 2017, 355, .	6.0	199
14	Bending Dynamics of Fluctuating Biopolymers Probed by Automated High-Resolution Filament Tracking. Biophysical Journal, 2007, 93, 346-359.	0.2	142
15	Topological structure and dynamics of three-dimensional active nematics. Science, 2020, 367, 1120-1124.	6.0	135
16	Isotropic-nematic phase transition in suspensions of filamentous virus and the neutral polymer Dextran. Physical Review E, 2004, 69, 051702.	0.8	122
17	Entropy driven self-assembly of nonamphiphilic colloidal membranes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10348-10353.	3.3	122
18	Self-organized dynamics and the transition to turbulence of confined active nematics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4788-4797.	3.3	114

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19	Enhanced stability of layered phases in parallel hard spherocylinders due to addition of hard spheres. Physical Review E, 2000, 62, 3925-3933.	0.8	107
20	Measuring the nematic order of suspensions of colloidal fd virus by x-ray diffraction and optical birefringence. Physical Review E, 2003, 67, 031708.	0.8	100
21	Tunable dynamics of microtubule-based active isotropic gels. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20140142.	1.6	87
22	Solid friction between soft filaments. Nature Materials, 2015, 14, 583-588.	13.3	87
23	Molecular engineering of chiral colloidal liquid crystals using DNA origami. Nature Materials, 2017, 16, 849-856.	13.3	85
24	Entropy-Driven Formation of a Chiral Liquid-Crystalline Phase of Helical Filaments. Physical Review Letters, 2006, 96, 018305.	2.9	77
25	ATP Consumption of Eukaryotic Flagella Measured at a Single-Cell Level. Biophysical Journal, 2015, 109, 2562-2573.	0.2	72
26	Flow Behavior of Colloidal Rodlike Viruses in the Nematic Phase. Langmuir, 2005, 21, 8048-8057.	1.6	66
27	Shear-banding and microstructure of colloids in shear flow. Faraday Discussions, 2003, 123, 157-172.	1.6	65
28	Surface Freezing and a Two-Step Pathway of the Isotropic-Smectic Phase Transition in Colloidal Rods. Physical Review Letters, 2003, 91, 165701.	2.9	59
29	Measuring Cohesion between Macromolecular Filaments One Pair at a Time: Depletion-Induced Microtubule Bundling. Physical Review Letters, 2015, 114, 138102.	2.9	58
30	Hierarchical organization of chiral rafts in colloidal membranes. Nature, 2014, 513, 77-80.	13.7	54
31	Statistical properties of autonomous flows in 2D active nematics. Soft Matter, 2019, 15, 3264-3272.	1.2	53
32	Self-assembly of 2D membranes from mixtures of hard rods and depleting polymers. Soft Matter, 2012, 8, 707-714.	1.2	44
33	Machine learning active-nematic hydrodynamics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	44
34	Entropic forces drive contraction of cytoskeletal networks. BioEssays, 2016, 38, 474-481.	1.2	42
35	Direct Measurement of the Twist Penetration Length in a Single Smectic A Layer of Colloidal Virus Particles. Journal of Physical Chemistry B, 2009, 113, 3910-3913.	1.2	37
36	Entropic forces stabilize diverse emergent structures in colloidal membranes. Soft Matter, 2016, 12, 386-401.	1.2	36

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37	Microtubules soften due to cross-sectional flattening. ELife, 2018, 7, .	2.8	35
38	Confinement Controls the Bend Instability of Three-Dimensional Active Liquid Crystals. Physical Review Letters, 2020, 125, 257801.	2.9	31
39	Imprintable membranes from incomplete chiral coalescence. Nature Communications, 2014, 5, 3063.	5.8	30
40	Achiral symmetry breaking and positive Gaussian modulus lead to scalloped colloidal membranes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E3376-E3384.	3.3	27
41	Hypercomplex Liquid Crystals. Annual Review of Condensed Matter Physics, 2014, 5, 137-157.	5.2	26
42	Trains, tails and loops of partially adsorbed semi-flexible filaments. Soft Matter, 2015, 11, 7507-7514.	1.2	25
43	Filamentous Phages As a Model System in Soft Matter Physics. Frontiers in Microbiology, 2016, 7, 1013.	1.5	23
44	Machine learning forecasting of active nematics. Soft Matter, 2021, 17, 738-747.	1.2	22
45	Extensile to contractile transition in active microtubuleâ€"actin composites generates layered asters with programmable lifetimes. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	19
46	Multiscale Microtubule Dynamics in Active Nematics. Physical Review Letters, 2021, 127, 148001.	2.9	18
47	Engineering Oscillating Microtubule Bundles. Methods in Enzymology, 2013, 524, 205-224.	0.4	17
48	Shear-Induced Gelation of Self-Yielding Active Networks. Physical Review Letters, 2020, 125, 178003.	2.9	17
49	Chiral edge fluctuations of colloidal membranes. Physical Review E, 2017, 95, 060701.	0.8	13
50	Active liquid crystals powered by force-sensing DNA-motor clusters. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	13
51	Engineering stability, longevity, and miscibility of microtubule-based active fluids. Soft Matter, 2022, 18, 1825-1835.	1.2	12
52	Geometrical edgeactants control interfacial bending rigidity of colloidal membranes. Soft Matter, 2013, 9, 8306.	1.2	10
53	Active Microphase Separation in Mixtures of Microtubules and Tip-Accumulating Molecular Motors. Physical Review X, 2022, 12, .	2.8	10
54	Structure, dynamics and phase behavior of short rod inclusions dissolved in a colloidal membrane. Soft Matter, 2019, 15, 7033-7042.	1.2	9

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55	Equation of state of colloidal membranes. Soft Matter, 2019, 15, 6791-6802.	1.2	9
56	Conformational switching of chiral colloidal rafts regulates raftâ€“raft attractions and repulsions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15792-15801.	3.3	7
57	All twist and no bend makes raft edges splay: Spontaneous curvature of domain edges in colloidal membranes. Science Advances, 2020, 6, eaba2331.	4.7	6
58	Assembling Microtubule-Based Active Matter. Methods in Molecular Biology, 2022, 2430, 151-183.	0.4	6
59	Force-Induced Formation of Twisted Chiral Ribbons. Physical Review Letters, 2020, 125, 018002.	2.9	5
60	Static adhesion hysteresis in elastic structures. Soft Matter, 2021, 17, 2704-2710.	1.2	4