Hiroshi Noguchi

List of Publications by Year
in descending order

102 papers	4,486 citations	136950 32 h-index	106344 65 g-index
102 all docs	102 docs citations	102 times ranked	3047 citing authors

#	Article	IF	Citations
1	Shape transitions of fluid vesicles and red blood cells in capillary flows. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14159-14164.	7.1	481
2	Flow-induced clustering and alignment of vesicles and red blood cells in microcapillaries. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6039-6043.	7.1	256
3	Fluid Vesicles with Viscous Membranes in Shear Flow. Physical Review Letters, 2004, 93, 258102.	7.8	234
4	Morphological variation in a collapsed single homopolymer chain. Journal of Chemical Physics, 1998, 109, 5070-5077.	3.0	204
5	Multiscale modeling of blood flow: from single cells to blood rheology. Biomechanics and Modeling in Mechanobiology, 2014, 13, 239-258.	2.8	200
6	Self-assembly of amphiphiles into vesicles: A Brownian dynamics simulation. Physical Review E, 2001, 64, 041913.	2.1	189
7	Dynamics of fluid vesicles in shear flow: Effect of membrane viscosity and thermal fluctuations. Physical Review E, 2005, 72, 011901.	2.1	184
8	Fusion pathways of vesicles: A Brownian dynamics simulation. Journal of Chemical Physics, 2001, 115, 9547-9551.	3.0	178
9	Swinging and Tumbling of Fluid Vesicles in Shear Flow. Physical Review Letters, 2007, 98, 128103.	7.8	164
10	Docosahexaenoic acid preserves visual function by maintaining correct disc morphology in retinal photoreceptor cells. Journal of Biological Chemistry, 2017, 292, 12054-12064.	3.4	113
11	Adhesion of Nanoparticles to Vesicles: A Brownian Dynamics Simulation. Biophysical Journal, 2002, 83, 299-308.	0.5	111
12	Particle-based mesoscale hydrodynamic techniques. Europhysics Letters, 2007, 78, 10005.	2.0	107
13	Self-organized nanostructures constructed with a single polymer chain. Chemical Physics Letters, 1996, 261, 527-533.	2.6	92
14	Transport coefficients of off-lattice mesoscale-hydrodynamics simulation techniques. Physical Review E, 2008, 78, 016706.	2.1	90
15	Relevance of angular momentum conservation in mesoscale hydrodynamics simulations. Physical Review E, 2007, 76, 046705.	2.1	88
16	Membrane Simulation Models from Nanometer to Micrometer Scale. Journal of the Physical Society of Japan, 2009, 78, 041007.	1.6	88
17	Meshless membrane model based on the moving least-squares method. Physical Review E, 2006, 73, 021903.	2.1	86
18	Dynamics of vesicle self-assembly and dissolution. Journal of Chemical Physics, 2006, 125, 164908.	3.0	78

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19	Dynamical regimes and hydrodynamic lift of viscous vesicles under shear. Physical Review E, 2009, 80, 011901.	2.1	71
20	Membrane tubule formation by banana-shaped proteins with or without transient network structure. Scientific Reports, 2016, 6, 20935.	3.3	68
21	Deformation and clustering of red blood cells in microcapillary flows. Soft Matter, 2011, 7, 10967.	2.7	63
22	First-order phase transition in a stiff polymer chain. Chemical Physics Letters, 1997, 278, 184-188.	2.6	61
23	Estimation of the bending rigidity and spontaneous curvature of fluid membranes in simulations. Physical Review E, 2011, 84, 031926.	2.1	59
24	Folding path in a semiflexible homopolymer chain: A Brownian dynamics simulation. Journal of Chemical Physics, 2000, 113, 854-862.	3.0	55
25	Anisotropic surface tension of buckled fluid membranes. Physical Review E, 2011, 83, 061919.	2.1	50
26	Multioverlap simulations for transitions between reference configurations. Physical Review E, 2003, 68, 036126.	2.1	49
27	Mechanical properties of a polymer network of Tetra-PEG gel. Polymer Journal, 2013, 45, 300-306.	2.7	46
28	Swinging and synchronized rotations of red blood cells in simple shear flow. Physical Review E, 2009, 80, 021902.	2.1	45
29	Solvent-free coarse-grained lipid model for large-scale simulations. Journal of Chemical Physics, 2011, 134, 055101.	3.0	41
30	Rubber elasticity for incomplete polymer networks. Journal of Chemical Physics, 2012, 137, 224903.	3.0	40
31	Dynamics of fluid vesicles in flow through structured microchannels. Europhysics Letters, 2010, 89, 28002.	2.0	39
32	Membrane structure formation induced by two types of banana-shaped proteins. Soft Matter, 2017, 13, 4099-4111.	2.7	36
33	Monte Carlo study of the frame, fluctuation and internal tensions of fluctuating membranes with fixed area. Soft Matter, 2016, 12, 2373-2380.	2.7	34
34	Two- or three-step assembly of banana-shaped proteins coupled with shape transformation of lipid membranes. Europhysics Letters, 2014, 108, 48001.	2.0	31
35	Curvature induction and sensing of the F-BAR protein Pacsin1 on lipid membranes via molecular dynamics simulations. Scientific Reports, 2019, 9, 14557.	3.3	29
36	A working hypothesis on the mechanism of molecular machinery. Chemical Physics Letters, 1999, 303, 10-14.	2.6	28

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37	Formation of polyhedral vesicles and polygonal membrane tubes induced by banana-shaped proteins. Journal of Chemical Physics, 2015, 143, 243109.	3.0	28
38	Polyhedral vesicles: A Brownian dynamics simulation. Physical Review E, 2003, 67, 041901.	2.1	27
39	Fusion and toroidal formation of vesicles by mechanical forces: A Brownian dynamics simulation. Journal of Chemical Physics, 2002, 117, 8130-8137.	3.0	25
40	Transport coefficients of dissipative particle dynamics with finite time step. Europhysics Letters, 2007, 79, 36002.	2.0	25
41	Ordering and arrangement of deformed red blood cells in flow through microcapillaries. New Journal of Physics, 2012, 14, 085026.	2.9	25
42	Vesicle dynamics in shear and capillary flows. Journal of Physics Condensed Matter, 2005, 17, S3439-S3444.	1.8	24
43	Structure formation in binary mixtures of surfactants: vesicle opening-up to bicelles and octopus-like micelles. Soft Matter, 2012, 8, 8926.	2.7	24
44	Rubber elasticity for percolation network consisting of Gaussian chains. Journal of Chemical Physics, 2015, 143, 184905.	3.0	24
45	Structural changes of pulled vesicles: A Brownian dynamics simulation. Physical Review E, 2002, 65, 051907.	2.1	23
46	Acceleration and suppression of banana-shaped-protein-induced tubulation by addition of small membrane inclusions of isotropic spontaneous curvatures. Soft Matter, 2017, 13, 7771-7779.	2.7	21
47	Pattern formation in reactionâ€"diffusion system on membrane with mechanochemical feedback. Scientific Reports, 2020, 10, 19582.	3.3	21
48	Binding of thermalized and active membrane curvature-inducing proteins. Soft Matter, 2021, 17, 5560-5573.	2.7	20
49	Dynamic modes of red blood cells in oscillatory shear flow. Physical Review E, 2010, 81, 061920.	2.1	17
50	Shape deformation of lipid membranes by banana-shaped protein rods: Comparison with isotropic inclusions and membrane rupture. Physical Review E, 2016, 93, 052404.	2.1	17
51	Shape transition from elliptical to cylindrical membrane tubes induced by chiral crescent-shaped protein rods. Scientific Reports, 2019, 9, 11721.	3.3	17
52	Shape transformations of toroidal vesicles. Soft Matter, 2015, 11, 193-201.	2.7	15
53	Rational Design Principles of Attenuated Cationic Lytic Peptides for Intracellular Delivery of Biomacromolecules. Molecular Pharmaceutics, 2020, 17, 2175-2185.	4.6	15
54	Reaction-diffusion waves coupled with membrane curvature. Soft Matter, 2021, 17, 6589-6596.	2.7	15

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55	Dynamics of DNA in entangled polymer solutions: An anisotropic friction model. Journal of Chemical Physics, 2001, 114, 7260-7266.	3.0	14
56	Line tension of branching junctions of bilayer membranes. Soft Matter, 2012, 8, 3146.	2.7	14
57	Morphological changes of amphiphilic molecular assemblies induced by chemical reactions. Soft Matter, 2015, 11, 1403-1411.	2.7	14
58	Dynamics of DNA electrophoresis in dilute and entangled polymer solutions. Journal of Chemical Physics, 2000, 112, 9671-9678.	3.0	13
59	Dynamic modes of microcapsules in steady shear flow: Effects of bending and shear elasticities. Physical Review E, 2010, 81, 056319.	2.1	13
60	Morphological variation of a lipid vesicle confined in a spherical vesicle. Physical Review E, 2014, 89, 040701.	2.1	12
61	Cup-to-vesicle transition of a fluid membrane with spontaneous curvature. Journal of Chemical Physics, 2019, 151, 094903.	3.0	12
62	Vesicle budding induced by binding of curvature-inducing proteins. Physical Review E, 2021, 104, 014410.	2.1	12
63	Lipid membranes with transmembrane proteins in shear flow. Journal of Chemical Physics, 2010, 132, 025101.	3.0	11
64	Mechanical properties and microdomain separation of fluid membranes with anchored polymers. Soft Matter, 2013, 9, 9907.	2.7	11
65	Structure formation in binary mixtures of lipids and detergents: Self-assembly and vesicle division. Journal of Chemical Physics, 2013, 138, 024907.	3.0	11
66	Polymer effects on KÃ¡rmÃ¡n vortex: Molecular dynamics study. Journal of Chemical Physics, 2018, 148, 144901.	3.0	11
67	Shape transitions of high-genus fluid vesicles. Europhysics Letters, 2015, 112, 58004.	2.0	10
68	Nonuniqueness of local stress of three-body potentials in molecular simulations. Physical Review E, 2016, 94, 053304.	2.1	9
69	Construction of Nuclear Envelope Shape by a High-Genus Vesicle with Pore-Size Constraint. Biophysical Journal, 2016, 111, 824-831.	0.5	9
70	Effects of cavitation on KÃ¡rmÃ¡n vortex behind circular-cylinder arrays: A molecular dynamics study. Journal of Chemical Physics, 2020, 152, 034501.	3.0	9
71	Binding of anisotropic curvature-inducing proteins onto membrane tubes. Soft Matter, 2022, 18, 3384-3394.	2.7	9
72	Structure formation of surfactant membranes under shear flow. Journal of Chemical Physics, 2013, 139, 014702.	3.0	8

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73	Bilayer sheet protrusions and budding from bilayer membranes induced by hydrolysis and condensation reactions. Soft Matter, 2018, 14, 1397-1407.	2.7	8
74	Membrane shape deformation induced by curvature-inducing proteins consisting of chiral crescent binding and intrinsically disordered domains. Journal of Chemical Physics, 2022, 157, .	3.0	8
75	Binding of curvature-inducing proteins onto biomembranes. International Journal of Modern Physics B, 2022, 36, .	2.0	8
76	Dynamics of Fluid Vesicles in Oscillatory Shear Flow. Journal of the Physical Society of Japan, 2010, 79, 024801.	1.6	7
77	Folding transition in single long duplex DNA chain. Progress in Colloid and Polymer Science, 1997, 106, 204-208.	0.5	7
78	Binding of curvature-inducing proteins onto tethered vesicles. Soft Matter, 2021, 17, 10469-10478.	2.7	7
79	Dynamical Modes of Deformed Red Blood Cells and Lipid Vesicles in Flows. Progress of Theoretical Physics Supplement, 2010, 184, 364-368.	0.1	6
80	Detachment of a fluid membrane from a substrate and vesiculation. Soft Matter, 2019, 15, 8741-8748.	2.7	6
81	Entropy-driven aggregation in multilamellar membranes. Europhysics Letters, 2013, 102, 68001.	2.0	6
82	Hydrophobic immiscibility controls self-sorting or co-assembly of peptide amphiphiles. Chemical Communications, 2022, 58, 585-588.	4.1	6
83	Linear-Shaped Motion of DNA in Entangled Polymer Solutions under a Steady Field. Journal of the Physical Society of Japan, 2000, 69, 3792-3795.	1.6	5
84	Finite-Size Effects on KÃ¡rmÃ¡n Vortex in Molecular Dynamics Simulation. Journal of the Physical Society of Japan, 2019, 88, 075003.	1.6	5
85	Conformation of ultra-long-chain fatty acid in lipid bilayer: Molecular dynamics study. Journal of Chemical Physics, 2020, 153, 165101.	3.0	5
86	Angular-momentum conservation in discretization of the Navier-Stokes equation for viscous fluids. Physical Review E, 2019, 99, 023307.	2.1	4
87	Molecular dynamics simulation of soundwave propagation in a simple fluid. Journal of Chemical Physics, 2020, 153, 124504.	3.0	4
88	Folding transition in single long duplex DNA chain. , 1997, , 204-208.		3
89	Limiting shapes of confined lipid vesicles. Soft Matter, 2019, 15, 602-614.	2.7	3
90	Undulation of a moving fluid membrane pushed by filament growth. Scientific Reports, 2021, 11, 7985.	3.3	3

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91	Effects of polymers on the cavitating flow around a cylinder: A large-scale molecular dynamics analysis. Journal of Chemical Physics, 2021, 155, 014905.	3.0	3
92	FOLDING DYNAMICS IN A SEMIFLEXIBLE POLYMER AS A MODEL OF DNA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2002, 12, 2003-2008.	1.7	2
93	Publisher's Note: Meshless membrane model based on the moving least-squares method [Phys. Rev. E73, 021903 (2006)]. Physical Review E, 2006, 73, .	2.1	2
94	Virtual bending method to calculate bending rigidity, saddle-splay modulus, and spontaneous curvature of thin fluid membranes. Physical Review E, 2020, 102, 053315.	2.1	2
95	Effects of anchored flexible polymers on mechanical properties of model biomembranes. , 2013, , .		1
96	Structure formation of lipid membranes: Membrane self-assembly and vesicle opening-up to octopus-like micelles. , 2013, , .		1
97	Effects of vapor-liquid phase transitions on sound-wave propagation: A molecular dynamics study. Physical Review Fluids, 2022, 7, .	2.5	1
98	Various Morphology with Collapse Transition in a Homopolymer Chain. Progress of Theoretical Physics Supplement, 2000, 138, 392-393.	0.1	0
99	Anisotropic friction model of DNA electrophoresis in polymer solutions: Comparison with direct observations. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 1316-1322.	2.1	0
100	Shape Transformaiton of Biomembrane Induced by Banana-Shaped Protein Rods: Tubulation and Formation of Polyhedral Vesicles. Biophysical Journal, 2016, 110, 575a.	0.5	0
101	Coarse-grained Simulations of Structure Formation in Lipid Membranes. Seibutsu Butsuri, 2013, 53, 011-014.	0.1	0
102	Nonequilibrium dynamics of a fluid vesicle: Turing patterns and traveling waves. Journal of Physics: Conference Series, 2022, 2207, 012017.	0.4	0