Jay X Tang

List of Publications by Year
in descending order

82 papers	3,345 citations	186265 28 h-index	149698 56 g-index
90 all docs	90 docs citations	90 times ranked	3875 citing authors

#	Article	IF	Citations
1	The Polyelectrolyte Nature of F-actin and the Mechanism of Actin Bundle Formation. Journal of Biological Chemistry, 1996, 271, 8556-8563.	3.4	371
2	Accumulation of Microswimmers near a Surface Mediated by Collision and Rotational Brownian Motion. Physical Review Letters, 2009, 103, 078101.	7.8	251
3	Adhesion of single bacterial cells in the micronewton range. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 5764-5768.	7.1	204
4	Amplified effect of Brownian motion in bacterial near-surface swimming. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18355-18359.	7.1	182
5	Surface contact stimulates the justâ€inâ€time deployment of bacterial adhesins. Molecular Microbiology, 2012, 83, 41-51.	2.5	172
6	Neutrophil morphology and migration are affected by substrate elasticity. Blood, 2009, 114, 1387-1395.	1.4	169
7	Nonlinear Elasticity of Stiff Filament Networks: Strain Stiffening, Negative Normal Stress, and Filament Alignment in Fibrin Gels. Journal of Physical Chemistry B, 2009, 113, 3799-3805.	2.6	166
8	Nonmuscle myosin heavy chain IIA mediates integrin LFA-1 de-adhesion during T lymphocyte migration. Journal of Experimental Medicine, 2008, 205, 195-205.	8.5	133
9	Opposite Effects of Electrostatics and Steric Exclusion on Bundle Formation by F-Actin and Other Filamentous Polyelectrolytesâ€. Biochemistry, 1997, 36, 12600-12607.	2.5	105
10	Accumulation of swimming bacteria near a solid surface. Physical Review E, 2011, 84, 041932.	2.1	103
11	Stiff filamentous virus translocations through solid-state nanopores. Nature Communications, 2014, 5, 4171.	12.8	103
12	Microrheology of solutions of semiflexible biopolymer filaments using laser tweezers interferometry. Physical Review E, 2004, 70, 021503.	2.1	79
13	Helical motion of the cell body enhances <i>Caulobacter crescentus</i> motility. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11252-11256.	7.1	75
14	Low Flagellar Motor Torque and High Swimming Efficiency of Caulobacter crescentus Swarmer Cells. Biophysical Journal, 2006, 91, 2726-2734.	0.5	71
15	Metal Ion-Induced Lateral Aggregation of Filamentous Viruses fd and M13. Biophysical Journal, 2002, 83, 566-581.	0.5	68
16	The Elastic Properties of the Caulobacter crescentus Adhesive Holdfast Are Dependent on Oligomers of N -Acetylglucosamine. Journal of Bacteriology, 2005, 187, 257-265.	2.2	66
17	Molecular Adsorption Steers Bacterial Swimming at the Air/Water Interface. Biophysical Journal, 2013, 105, 21-28.	0.5	66
18	Influence of Physical Effects on the Swarming Motility of Pseudomonas aeruginosa. Biophysical Journal, 2017, 112, 1462-1471.	0.5	66

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19	Growth of tactoidal droplets during the first-order isotropic to nematic phase transition of F-actin. Physical Review E, 2007, 75, 061902.	2.1	65
20	Thiol Oxidation of Actin Produces Dimers That Enhance the Elasticity of the F-Actin Network. Biophysical Journal, 1999, 76, 2208-2215.	0.5	59
21	Diffusion of actin filaments within a thin layer between two walls. Physical Review E, 2004, 69, 061921.	2.1	58
22	Counterion-induced actin ring formation. European Biophysics Journal, 2001, 30, 477-484.	2.2	56
23	Flagellin Redundancy in Caulobacter crescentus and Its Implications for Flagellar Filament Assembly. Journal of Bacteriology, 2011, 193, 2695-2707.	2.2	52
24	Isotropic to Nematic Liquid Crystalline Phase Transition ofF-Actin Varies from Continuous to First Order. Physical Review Letters, 2006, 97, 118103.	7.8	47
25	Anionic poly(amino acid)s dissolve F-actin and DNA bundles, enhance DNase activity, and reduce the viscosity of cystic fibrosis sputum. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2005, 289, L599-L605.	2.9	45
26	Viscoelastic properties of semiflexible filamentous bacteriophage fd. Physical Review E, 2000, 62, 5509-5517.	2.1	42
27	Microtubule bundling and nested buckling drive stripe formation in polymerizing tubulin solutions. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 10654-10659.	7.1	40
28	Osmotic Pressure in a Bacterial Swarm. Biophysical Journal, 2014, 107, 871-878.	0.5	35
29	Continuous isotropic-nematic liquid crystalline transition ofF-actin solutions. Physical Review E, 2003, 67, 040701.	2.1	33
30	Describing Directional Cell Migration with a Characteristic Directionality Time. PLoS ONE, 2015, 10, e0127425.	2.5	25
31	The Aerotactic Response of Caulobacter crescentus. Biophysical Journal, 2016, 110, 2076-2084.	0.5	24
32	Microfluidic platform for isolating nucleic acid targets using sequence specific hybridization. Biomicrofluidics, 2013, 7, 44107.	2.4	20
33	Orientational order parameter of the nematic liquid crystalline phase ofF-actin. Physical Review E, 2006, 73, 061901.	2.1	19
34	Measurements of fluid viscosity using a miniature ball drop device. Review of Scientific Instruments, 2016, 87, 054301.	1.3	19
35	Polymerization Force Driven Buckling of Microtubule Bundles Determines the Wavelength of Patterns Formed in Tubulin Solutions. Physical Review Letters, 2007, 98, 198103.	7.8	17
36	Stick-slip motion and elastic coupling in crawling cells. Physical Review E, 2012, 86, 031908.	2.1	17

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37	Holdfast spreading and thickening during Caulobacter crescentus attachment to surfaces. BMC Microbiology, 2013, 13, 139.	3.3	16
38	Nitric oxide reduces sickle hemoglobin polymerization: Potential role of nitric oxide-induced charge alteration in depolymerization. Archives of Biochemistry and Biophysics, 2011, 510, 53-61.	3.0	15
39	Surface adsorption and hopping cause probe-size-dependent microrheology of actin networks. Physical Review E, 2011, 83, 041902.	2.1	15
40	Technical Advance: Introducing a novel metric, directionality time, to quantify human neutrophil chemotaxis as a function of matrix composition and stiffness. Journal of Leukocyte Biology, 2014, 95, 993-1004.	3.3	14
41	Single filament electrophoresis of F-actin and filamentous virus fd. Journal of Chemical Physics, 2005, 122, 104708.	3.0	13
42	Relative actin nucleation promotion efficiency by WASP and WAVE proteins in endothelial cells. Biochemical and Biophysical Research Communications, 2010, 400, 661-666.	2.1	13
43	Nanopore Measurements of Filamentous Viruses Reveal a Sub-nanometer-Scale Stagnant Fluid Layer. ACS Nano, 2017, 11, 11669-11677.	14.6	13
44	Bacterial Swarmers Enriched During Intestinal Stress Ameliorate Damage. Gastroenterology, 2021, 161, 211-224.	1.3	13
45	Counterion-dependent microrheological properties ofF-actin solutions across the isotropic-nematic phase transition. Physical Review E, 2008, 78, 011908.	2.1	12
46	Flagellar Motor Switching inCaulobacter CrescentusObeys First Passage Time Statistics. Physical Review Letters, 2015, 115, 198103.	7.8	11
47	Confinement discerns swarmers from planktonic bacteria. ELife, 2021, 10, .	6.0	10
48	Counterion-Induced Abnormal Slowdown of F-Actin Diffusion across the Isotropic-to-Nematic Phase Transition. Physical Review Letters, 2007, 99, 068103.	7.8	9
49	Intriguing Self-Assembly of Large Granules of F-Actin Facilitated by Gelsolin and Î±-Actinin. Langmuir, 2005, 21, 2789-2795.	3.5	8
50	Observation and Kinematic Description of Long Actin Tracks Induced by Spherical Beads. Biophysical Journal, 2010, 99, 2793-2802.	0.5	8
51	Altered motility of Caulobacter Crescentus in viscous and viscoelastic media. BMC Microbiology, 2014, 14, 322.	3.3	8
52	Effects of osmotic force and torque on microtubule bundling and pattern formation. Physical Review E, 2008, 78, 041910.	2.1	7
53	Buckling Causes Nonlinear Dynamics of Filamentous Viruses Driven through Nanopores. Physical Review Letters, 2018, 120, 078101.	7.8	7
54	An expanding bacterial colony forms a depletion zone with growing droplets. Soft Matter, 2021, 17, 2315-2326.	2.7	5

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55	Capillary flow and mechanical buckling in a growing annular bacterial colony. Soft Matter, 2018, 14, 301-311.	2.7	3
56	Orbiting of Flagellated Bacteria within a Thin Fluid Film around Micrometer-Sized Particles. Biophysical Journal, 2019, 117, 346-354.	0.5	3
57	Hydrodynamic stability of helical growth at low Reynolds number. Physical Review E, 2005, 71, 051912.	2.1	2
58	Switching Statistics of a Flagellar Motor: First-Passage Time and Dynamic Binding. Journal of Statistical Physics, 2007, 128, 257-267.	1.2	2
59	Kinetic overshoot in actin network assembly induced jointly by branching and capping proteins. Physical Review E, 2009, 80, 041913.	2.1	2
60	Solid-state nanopores for detection of rod-like viruses and trapping of single DNA molecules. , 2012, , .		2
61	An Inexpensive Imaging Platform to Record and Quantitate Bacterial Swarming. Bio-protocol, 2021, 11, e4162.	0.4	2
62	Measurement of Adhesion Force between a Human Neutrophil and a Candida albicans Hyphae Using a Micromanipulation Technique. Biophysical Journal, 2009, 96, 628a.	0.5	1
63	Solid-state nanopores for detection of rod-like viruses and trapping of single DNA molecules. , 2012, , .		1
64	Discovery of oscillations in rotational speed of body-tetheredCaulobacter crescentus. Physical Review E, 2020, 102, 062416.	2.1	1
65	Bacterial Swarmers Exhibit a Protective Response to Intestinal Stress. SSRN Electronic Journal, 0, , .	0.4	1
66	Enterobacter sp. Strain SM1_HS2B Manifests Transient Elongation and Swimming Motility in Liquid Medium. Microbiology Spectrum, 2022, 10, .	3.0	1
67	Nematic liquid crystalline formation of F-actin displays features of a continuous transition. Materials Research Society Symposia Proceedings, 2001, 711, 1.	0.1	0
68	Nonmuscle myosin heavy chain IIA mediates integrin LFA-1 de-adhesion during T lymphocyte migration. Journal of Experimental Medicine, 2008, 205, 993-993.	8.5	0
69	Measuring the Strength of Bacterial Adhesion by Micromanipulation. ACS Symposium Series, 2008, , 231-241.	0.5	0
70	Substrate stiffness influences neutrophil chemotaxis through a PI3K-dependent process. Journal of the American College of Surgeons, 2009, 209, S42-S43.	0.5	0
71	Does Substrate Stiffness Guide Neutrophils During An Inflammation Response?. Biophysical Journal, 2009, 96, 523a.	0.5	0
72	Substrate elasticity regulates neutrophil functions of host defense. Journal of the American College of Surgeons, 2010, 211, S41.	0.5	0

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73	Tracking Bacterial Swimming Near a Solid or Air Surface. Biophysical Journal, 2011, 100, 599a.	0.5	0
74	Quantification of Directional Migration by a Characteristic Directionality Time. Biophysical Journal, 2014, 106, 573a.	0.5	0
75	Assessment of a Weak Mode of Bacterial Adhesion by Applying an Electric Field. Applied Microbiology, 2021, 1, 255-269.	1.6	0
76	The Polyelectrolyte Nature and Large Scale Self-assembly of the Protein Filaments F-actin. , 2002, , .		0
77	Nonmuscle myosin heavy chain IIA mediates integrin LFA-1 de-adhesion during T lymphocyte migration. Journal of Cell Biology, 2008, 180, i5-i5.	5.2	0
78	NEUTROPHIL MIGRATION IS INFLUENCED BY SUBSTRATE STIFFNESS. FASEB Journal, 2009, 23, 929.6.	0.5	0
79	Phosphoinositideâ€3â€kinase regulation of neutrophil mechanosensing is context dependent. FASEB Journal, 2013, 27, 650.1.	0.5	0
80	Physical biology of bacterial motility. Wuli Xuebao/Acta Physica Sinica, 2016, 65, 178703.	0.5	0
81	Molecular Crowding Modulates Actin Filament Mechanics and Structure. FASEB Journal, 2019, 33, 779.4.	0.5	0
82	Bacterial swarming dynamics in simulated physiological environments. Biophysical Journal, 2022, 121, 120a.	0.5	0