Thomas T Perkins

List of Publications by Year
in descending order

64 papers	2,898 citations	201385 27 h-index	168136 53 g-index
68 all docs	68 docs citations	68 times ranked	3001 citing authors

#	Article	IF	Citations
1	Type III secretion system effector proteins are mechanically labile. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	24
2	Free-energy changes of bacteriorhodopsin point mutants measured by single-molecule force spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	10
3	Modulation of a protein-folding landscape revealed by AFM-based force spectroscopy notwithstanding instrumental limitations. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2015728118.	3.3	16
4	Membrane-Protein Unfolding Intermediates Detected with Enhanced Precision Using a Zigzag Force Ramp. Biophysical Journal, 2020, 118, 667-675.	0.2	15
5	Quantifying the Native Energetics Stabilizing Bacteriorhodopsin by Single-Molecule Force Spectroscopy. Physical Review Letters, 2020, 125, 068102.	2.9	14
6	Correcting molecular transition rates measured by single-molecule force spectroscopy for limited temporal resolution. Physical Review E, 2020, 102, 022402.	0.8	9
7	Bending and looping of long DNA by Polycomb repressive complex 2 revealed by AFM imaging in liquid. Nucleic Acids Research, 2020, 48, 2969-2981.	6.5	11
8	Quantifying the Initial Unfolding of Bacteriorhodopsin Reveals Retinal Stabilization. Angewandte Chemie, 2019, 131, 1724-1727.	1.6	2
9	Imaging DNA Equilibrated onto Mica in Liquid Using Biochemically Relevant Deposition Conditions. ACS Nano, 2019, 13, 4220-4229.	7.3	51
10	Quantifying the Initial Unfolding of Bacteriorhodopsin Reveals Retinal Stabilization. Angewandte Chemie - International Edition, 2019, 58, 1710-1713.	7.2	19
11	Going Vertical To Improve the Accuracy of Atomic Force Microscopy Based Single-Molecule Force Spectroscopy. ACS Nano, 2018, 12, 198-207.	7.3	22
12	Improved Free-Energy Landscape Quantification Illustrated with a Computationally Designed Protein-Ligand Interaction. ChemPhysChem, 2018, 19, 5-5.	1.0	0
13	Improved free-energy landscape reconstruction of bacteriorhodopsin highlights local variations in unfolding energy. Journal of Chemical Physics, 2018, 148, 123313.	1.2	18
14	Improved Freeâ€Energy Landscape Quantification Illustrated with a Computationally Designed Proteinâ€"Ligand Interaction. ChemPhysChem, 2018, 19, 19-23.	1.0	11
15	High-Precision Single-Molecule Characterization of the Folding of an HIV RNA Hairpin by Atomic Force Microscopy. Nano Letters, 2018, 18, 6318-6325.	4.5	34
16	FEATHER: Automated Analysis of Force Spectroscopy Unbinding and Unfolding Data viaÂaÂBayesian Algorithm. Biophysical Journal, 2018, 115, 757-762.	0.2	10
17	Optimizing force spectroscopy by modifying commercial cantilevers: Improved stability, precision, and temporal resolution. Journal of Structural Biology, 2017, 197, 13-25.	1.3	33
18	Hidden dynamics in the unfolding of individual bacteriorhodopsin proteins. Science, 2017, 355, 945-950.	6.0	194

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19	Force Spectroscopy with 9-Î¼s Resolution and Sub-pN Stability by Tailoring AFM Cantilever Geometry. Biophysical Journal, 2017, 113, 2595-2600.	0.2	36
20	Rapid Characterization of a Mechanically Labile Î±-Helical Protein Enabled by Efficient Site-Specific Bioconjugation. Journal of the American Chemical Society, 2017, 139, 9867-9875.	6.6	67
21	Improved Force Spectroscopy Using Focused-Ion-Beam-Modified Cantilevers. Methods in Enzymology, 2017, 582, 321-351.	0.4	15
22	Force-activated DNA substrates for probing individual proteins interacting with single-stranded DNA. Nucleic Acids Research, 2017, 45, 10775-10782.	6.5	9
23	A Surface-Coupled Optical Trap with 1-bp Precision via Active Stabilization. Methods in Molecular Biology, 2017, 1486, 77-107.	0.4	2
24	Sequence-dependent nanometer-scale conformational dynamics of individual RecBCDâ€“DNA complexes. Nucleic Acids Research, 2016, 44, 5849-5860.	6.5	20
25	Custom Modification of AFM Tips for Fast, High Force Resolution Single-Molecule Force Spectroscopy. Microscopy and Microanalysis, 2015, 21, 1617-1618.	0.2	0
26	Direct Observation of the Reversible Twoâ€State Unfolding and Refolding of an Î±/Î² Protein by Singleâ€Molecule Atomic Force Microscopy. Angewandte Chemie - International Edition, 2015, 54, 9921-9925.	7.2	52
27	Optimizing 1-Î¼s-Resolution Single-Molecule Force Spectroscopy on a Commercial Atomic Force Microscope. Nano Letters, 2015, 15, 7091-7098.	4.5	54
28	Ultrastable measurement platform: sub-nm drift over hours in 3D at room temperature. Optics Express, 2015, 23, 16554.	1.7	11
29	Improved Single Molecule Force Spectroscopy Using Micromachined Cantilevers. ACS Nano, 2014, 8, 4984-4995.	7.3	70
30	Ultrastable atomic force microscopy: Improved force and positional stability. FEBS Letters, 2014, 588, 3621-3630.	1.3	26
31	Ã…ngstrÃ¶m-Precision Optical Traps and Applications. Annual Review of Biophysics, 2014, 43, 279-302.	4.5	44
32	Atomic force microscopy with sub-picoNewton force stability for biological applications. Methods, 2013, 60, 131-141.	1.9	27
33	Nano-Chemical Infrared Imaging of Membrane Proteins in Lipid Bilayers. Journal of the American Chemical Society, 2013, 135, 18292-18295.	6.6	99
34	Torsionally constrained DNA for single-molecule assays: an efficient, ligation-free method. Nucleic Acids Research, 2013, 41, e179-e179.	6.5	17
35	Optimizing bead size reduces errors in force measurements in optical traps. Optics Express, 2013, 21, 39.	1.7	18
36	A Precision Force Microscope for Biophysics. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 31-36.	0.3	0

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37	Force spectroscopy of DNA: there is still a lot to learn. , 2012, , .		0
38	Routine and Timely Sub-picoNewton Force Stability and Precision for Biological Applications of Atomic Force Microscopy. Nano Letters, 2012, 12, 3557-3561.	4.5	68
39	Titelbild: Dynamics and Multiple Stable Binding Modes of DNA Intercalators Revealed by Single-Molecule Force Spectroscopy (Angew. Chem. 8/2012). Angewandte Chemie, 2012, 124, 1765-1765.	1.6	0
40	Dynamics and Multiple Stable Binding Modes of DNA Intercalators Revealed by Singleâ€Molecule Force Spectroscopy. Angewandte Chemie - International Edition, 2012, 51, 1811-1815.	7.2	42
41	Single-Molecule Optical-Trapping Measurements with DNA Anchored to an Array of Gold Nanoposts. Methods in Molecular Biology, 2012, 875, 335-356.	0.4	2
42	Overstretching DNA at 65 pN Does Not Require Peeling from Free Ends or Nicks. Journal of the American Chemical Society, 2011, 133, 3219-3221.	6.6	78
43	Optical trapping meets atomic force microscopy: a precision force microscope for biophysics. Proceedings of SPIE, 2010, , .	0.8	0
44	Label-free optical imaging of membrane patches for atomic force microscopy. Optics Express, 2010, 18, 23924.	1.7	7
45	Ultrastable Atomic Force Microscopy using Laser-Based, Active Noise Cancelation. , 2010, , .		0
46	Dynamics of DNA-based molecular motors measured with 1-bp resolution. , 2009, , .		0
47	Optical traps for single molecule biophysics: a primer. Laser and Photonics Reviews, 2009, 3, 203-220.	4.4	115
48	Precision Surface-Coupled Optical-Trapping Assay with One-Basepair Resolution. Biophysical Journal, 2009, 96, 2926-2934.	0.2	63
49	Integrating a High-Force Optical Trap with Gold Nanoposts and a Robust Goldâ^'DNA Bond. Nano Letters, 2009, 9, 2978-2983.	4.5	16
50	Ultrastable Atomic Force Microscopy: Atomic-Scale Stability and Registration in Ambient Conditions. Nano Letters, 2009, 9, 1451-1456.	4.5	82
51	Independent measurements of force and position in atomic force microscopy. Proceedings of SPIE, 2009, , .	0.8	1
52	Single-Molecule Studies of RecBCD. Methods in Molecular Biology, 2009, 587, 155-172.	0.4	1
53	Improved performance of an ultrastable measurement platform using a field-programmable gate array for real-time deterministic control. Proceedings of SPIE, 2008, , .	0.8	4
54	Back-scattered detection provides atomic-scale localization precision, stability, and registration in 3D. Optics Express, 2007, 15, 13434.	1.7	48

#	ARTICLE	IF	CITATIONS
55	Stabilization of an optical microscope to 01 nm in three dimensions. Applied Optics, 2007, 46, 421.	2.1	126
56	TFIIA Changes the Conformation of the DNA in TBP/TATA Complexes and Increases their Kinetic Stability. Journal of Molecular Biology, 2007, 372, 619-632.	2.0	44
57	Elasticity of Short DNA Molecules: Theory and Experiment for Contour Lengths of 0.6â€"7Î¼m. Biophysical Journal, 2007, 93, 4360-4373.	0.2	122
58	Gold nanoparticles: enhanced optical trapping and sensitivity coupled with significant heating. Optics Letters, 2006, 31, 2429.	1.7	260
59	Measuring 01-nm motion in 1 ms in an optical microscope with differential back-focal-plane detection. Optics Letters, 2004, 29, 2611.	1.7	98
60	Forward and Reverse Motion of Single RecBCD Molecules on DNA. Biophysical Journal, 2004, 86, 1640-1648.	0.2	134
61	Sequence-Dependent Pausing of Single Lambda Exonuclease Molecules. Science, 2003, 301, 1914-1918.	6.0	128
62	Dynamical Scaling of DNA Diffusion Coefficients. Macromolecules, 1996, 29, 1372-1373.	2.2	283
63	Self-Diffusion of an Entangled DNA Molecule by Reptation. Physical Review Letters, 1995, 75, 4146-4149.	2.9	79
64	Steadyâ€state gain and saturation flux measurements in a high efficiency, electronâ€beamâ€pumped, Arâ€Xe laser. Journal of Applied Physics, 1993, 74, 4860-4866.	1.1	7