

Michelle D Wang

List of Publications by Year in descending order

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65
papers

5,044
citations

117571

34
h-index

118793

62
g-index

69
all docs

69
docs citations

69
times ranked

3692
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanical disruption of individual nucleosomes reveals a reversible multistage release of DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 1960-1965.	3.3	440
2	High-resolution dynamic mapping of histone-DNA interactions in a nucleosome. <i>Nature Structural and Molecular Biology</i> , 2009, 16, 124-129.	3.6	354
3	Optical Torque Wrench: Angular Trapping, Rotation, and Torque Detection of Quartz Microparticles. <i>Physical Review Letters</i> , 2004, 92, 190801.	2.9	317
4	Transcription Under Torsion. <i>Science</i> , 2013, 340, 1580-1583.	6.0	272
5	Optical tweezers in single-molecule biophysics. <i>Nature Reviews Methods Primers</i> , 2021, 1, .	11.8	229
6	Single-Molecule Studies Reveal Dynamics of DNA Unwinding by the Ring-Shaped T7 Helicase. <i>Cell</i> , 2007, 129, 1299-1309.	13.5	219
7	Single molecule analysis of RNA polymerase elongation reveals uniform kinetic behavior. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 13538-13543.	3.3	182
8	Abrupt Buckling Transition Observed during the Plectoneme Formation of Individual DNA Molecules. <i>Physical Review Letters</i> , 2008, 100, 148301.	2.9	181
9	Specific Contributions of Histone Tails and their Acetylation to the Mechanical Stability of Nucleosomes. <i>Journal of Molecular Biology</i> , 2005, 346, 135-146.	2.0	177
10	Nanofabricated quartz cylinders for angular trapping: DNA supercoiling torque detection. <i>Nature Methods</i> , 2007, 4, 223-225.	9.0	173
11	Sequence-dependent Kinetic Model for Transcription Elongation by RNA Polymerase. <i>Journal of Molecular Biology</i> , 2004, 344, 335-349.	2.0	140
12	Nanophotonic trapping for precise manipulation of biomolecular arrays. <i>Nature Nanotechnology</i> , 2014, 9, 448-452.	15.6	138
13	Probing Protein-DNA Interactions by Unzipping a Single DNA Double Helix. <i>Biophysical Journal</i> , 2002, 83, 1098-1105.	0.2	123
14	Torque modulates nucleosome stability and facilitates H2A/H2B dimer loss. <i>Nature Communications</i> , 2013, 4, 2579.	5.8	116
15	Synergistic action of RNA polymerases in overcoming the nucleosomal barrier. <i>Nature Structural and Molecular Biology</i> , 2010, 17, 745-752.	3.6	114
16	Structure and Scm3-mediated assembly of budding yeast centromeric nucleosomes. <i>Nature Communications</i> , 2011, 2, 313.	5.8	111
17	ATP-induced helicase slippage reveals highly coordinated subunits. <i>Nature</i> , 2011, 478, 132-135.	13.7	104
18	Underwound DNA under Tension: Structure, Elasticity, and Sequence-Dependent Behaviors. <i>Physical Review Letters</i> , 2011, 107, 108102.	2.9	92

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19	DNA supercoiling during transcription. <i>Biophysical Reviews</i> , 2016, 8, 75-87.	1.5	92
20	Dynamic regulation of transcription factors by nucleosome remodeling. <i>ELife</i> , 2015, 4, .	2.8	90
21	Probing SWI/SNF remodeling of the nucleosome by unzipping single DNA molecules. <i>Nature Structural and Molecular Biology</i> , 2006, 13, 549-554.	3.6	89
22	Dynamic Force Spectroscopy of Protein-DNA Interactions by Unzipping DNA. <i>Physical Review Letters</i> , 2003, 91, 028103.	2.9	81
23	Mechanochemical Kinetics of Transcription Elongation. <i>Physical Review Letters</i> , 2007, 98, 068103.	2.9	76
24	Torque Measurement at the Single-Molecule Level. <i>Annual Review of Biophysics</i> , 2013, 42, 583-604.	4.5	71
25	Optical Tweezers: A Force to Be Reckoned With. <i>Cell</i> , 2018, 175, 1445-1448.	13.5	69
26	Mfd Dynamically Regulates Transcription via a Release and Catch-Up Mechanism. <i>Cell</i> , 2018, 172, 344-357.e15.	13.5	65
27	Twist-stretch coupling and phase transition during DNA supercoiling. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 4800.	1.3	63
28	A Single-Molecule Technique to Study Sequence-Dependent Transcription Pausing. <i>Biophysical Journal</i> , 2004, 87, 3945-3953.	0.2	53
29	Detection of High-Affinity and Sliding Clamp Modes for MSH2-MSH6 by Single-Molecule Unzipping Force Analysis. <i>Molecular Cell</i> , 2005, 20, 771-781.	4.5	53
30	Detection of Forces and Displacements along the Axial Direction in an Optical Trap. <i>Biophysical Journal</i> , 2006, 90, 657-667.	0.2	48
31	Recent advances in single molecule studies of nucleosomes. <i>Current Opinion in Structural Biology</i> , 2012, 22, 80-87.	2.6	46
32	Synergistic Coordination of Chromatin Torsional Mechanics and Topoisomerase Activity. <i>Cell</i> , 2019, 179, 619-631.e15.	13.5	44
33	Passive torque wrench and angular position detection using a single-beam optical trap. <i>Optics Letters</i> , 2010, 35, 2949.	1.7	43
34	T7 replisome directly overcomes DNA damage. <i>Nature Communications</i> , 2015, 6, 10260.	5.8	42
35	Transcription factor regulation of RNA polymerase's torque generation capacity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 2583-2588.	3.3	36
36	DNA looping mediates nucleosome transfer. <i>Nature Communications</i> , 2016, 7, 13337.	5.8	35

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37	Single-molecule perspectives on helicase mechanisms and functions. <i>Critical Reviews in Biochemistry and Molecular Biology</i> , 2016, 51, 15-25.	2.3	34
38	Nanophotonic trapping: precise manipulation and measurement of biomolecular arrays. <i>Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology</i> , 2018, 10, e1477.	3.3	33
39	Discontinuities at the DNA supercoiling transition. <i>Physical Review E</i> , 2009, 80, 040901.	0.8	30
40	Torsional Stiffness of Extended and Plectonemic DNA. <i>Physical Review Letters</i> , 2021, 127, 028101.	2.9	27
41	Unzipping Single DNA Molecules to Study Nucleosome Structure and Dynamics. <i>Methods in Enzymology</i> , 2012, 513, 29-58.	0.4	26
42	Electro-optofluidics: achieving dynamic control on-chip. <i>Optics Express</i> , 2012, 20, 22314.	1.7	24
43	DNA Y Structure: A Versatile, Multidimensional Single Molecule Assay. <i>Nano Letters</i> , 2014, 14, 6475-6480.	4.5	24
44	The Chd1 chromatin remodeler can sense both entry and exit sides of the nucleosome. <i>Nucleic Acids Research</i> , 2016, 44, 7580-7591.	6.5	23
45	Use of Optical Trapping Techniques to Study Single-Nucleosome Dynamics. <i>Methods in Enzymology</i> , 2003, 376, 62-72.	0.4	22
46	Biocompatible and High Stiffness Nanophotonic Trap Array for Precise and Versatile Manipulation. <i>Nano Letters</i> , 2016, 16, 6661-6667.	4.5	22
47	Dextran-coated iron oxide nanoparticle-induced nanotoxicity in neuron cultures. <i>Scientific Reports</i> , 2020, 10, 11239.	1.6	22
48	Towards biological applications of nanophotonic tweezers. <i>Current Opinion in Chemical Biology</i> , 2019, 53, 158-166.	2.8	19
49	Helicase promotes replication re-initiation from an RNA transcript. <i>Nature Communications</i> , 2018, 9, 2306.	5.8	18
50	RNA polymerase is a powerful torsional motor. <i>Cell Cycle</i> , 2014, 13, 337-338.	1.3	16
51	A257T Linker Region Mutant of T7 Helicase-Primase Protein Is Defective in DNA Loading and Rescued by T7 DNA Polymerase. <i>Journal of Biological Chemistry</i> , 2011, 286, 20490-20499.	1.6	15
52	Single-Molecule Unzipping Force Analysis of HU-DNA Complexes. <i>ChemBioChem</i> , 2013, 14, 1954-1957.	1.3	15
53	Direct Measurements of Torque During Holliday Junction Migration. <i>Biophysical Journal</i> , 2011, 101, L5-L7.	0.2	13
54	Discovering the Power of Single Molecules. <i>Cell</i> , 2014, 157, 4-7.	13.5	13

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55	Molecular Highwaysâ€”Navigating Collisions of DNA Motor Proteins. <i>Journal of Molecular Biology</i> , 2018, 430, 4513-4524.	2.0	13
56	High Trap Stiffness Microcylinders for Nanophotonic Trapping. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 25074-25080.	4.0	12
57	High-Performance Image-Based Measurements of Biological Forces and Interactions in a Dual Optical Trap. <i>ACS Nano</i> , 2018, 12, 11963-11974.	7.3	11
58	Tunable nanophotonic array traps with enhanced force and stability. <i>Optics Express</i> , 2017, 25, 7907.	1.7	8
59	Resonator nanophotonic standing-wave array trap for single-molecule manipulation and measurement. <i>Nature Communications</i> , 2022, 13, 77.	5.8	8
60	Comparison of pause predictions of two sequence-dependent transcription models. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010, 2010, P12007.	0.9	7
61	Single-Molecule Angular Optical Trapping for Studying Transcription Under Torsion. <i>Methods in Molecular Biology</i> , 2018, 1805, 301-332.	0.4	6
62	A DNA Twist Diffuses and Hops. <i>Science</i> , 2012, 338, 56-57.	6.0	5
63	Journal club. <i>Nature</i> , 2008, 454, 921-921.	13.7	0
64	Ruler of life. <i>Nature Physics</i> , 2021, 17, 976-976.	6.5	0
65	T7 DNA Polymerase Rescues the DNA Loading Defect of the A257T Linker Region Mutant of T7 Helicaseâ€”Primase Protein. <i>FASEB Journal</i> , 2011, 25, 880.5.	0.2	0