Michelle D Wang

List of Publications by Year in Descending Order

63 papers	3,883 citations	32 h-index	62 g-index
69 ext. papers	4,554 ext. citations	14.7 avg, IF	5.49 L-index

#	Paper	IF	Citations
63	Resonator nanophotonic standing-wave array trap for single-molecule manipulation and measurement.. *Nature Communications*, **2022**, 13, 77	17.4	1
62	Optical tweezers in single-molecule biophysics. *Nature Reviews Methods Primers*, **2021**, 1,		39
61	Torsional Stiffness of Extended and Plectonemic DNA. *Physical Review Letters*, **2021**, 127, 028101	7.4	3
60	Dextran-coated iron oxide nanoparticle-induced nanotoxicity in neuron cultures. *Scientific Reports*, **2020**, 10, 11239	4.9	14
59	High Trap Stiffness Microcylinders for Nanophotonic Trapping. *ACS Applied Materials & Interfaces*, **2019**, 11, 25074-25080	9.5	10
58	Synergistic Coordination of Chromatin Torsional Mechanics and Topoisomerase Activity. *Cell*, **2019**, 179, 619-631.e15	56.2	26
57	Towards biological applications of nanophotonic tweezers. *Current Opinion in Chemical Biology*, **2019**, 53, 158-166	9.7	10
56	Transcription factor regulation of RNA polymerase's torque generation capacity. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 2583-2588	11.5	22
55	Nanophotonic trapping: precise manipulation and measurement of biomolecular arrays. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, **2018**, 10, e1477	9.2	24
54	Single-Molecule Angular Optical Trapping for Studying Transcription Under Torsion. *Methods in Molecular Biology*, **2018**, 1805, 301-332	1.4	6
53	Molecular Highways-Navigating Collisions of DNA Motor Proteins. *Journal of Molecular Biology*, **2018**, 430, 4513-4524	6.5	3
52	Helicase promotes replication re-initiation from an RNA transcript. *Nature Communications*, **2018**, 9, 2306	17.4	16
51	Mfd Dynamically Regulates Transcription via a Release and Catch-Up Mechanism. *Cell*, **2018**, 172, 344-357.e15	36.1	35
50	Optical Tweezers: A Force to Be Reckoned With. *Cell*, **2018**, 175, 1445-1448	56.2	39
49	High-Performance Image-Based Measurements of Biological Forces and Interactions in a Dual Optical Trap. *ACS Nano*, **2018**, 12, 11963-11974	16.7	10
48	Tunable nanophotonic array traps with enhanced force and stability. *Optics Express*, **2017**, 25, 7907-7918	3.3	6
47	Single-molecule perspectives on helicase mechanisms and functions. *Critical Reviews in Biochemistry and Molecular Biology*, **2016**, 51, 15-25	8.7	22

46	DNA looping mediates nucleosome transfer. *Nature Communications*, **2016**, 7, 13337	17.4	24
45	The Chd1 chromatin remodeler can sense both entry and exit sides of the nucleosome. *Nucleic Acids Research*, **2016**, 44, 7580-91	20.1	21
44	Biocompatible and High Stiffness Nanophotonic Trap Array for Precise and Versatile Manipulation. *Nano Letters*, **2016**, 16, 6661-6667	11.5	18
43	DNA supercoiling during transcription. *Biophysical Reviews*, **2016**, 8, 75-87	3.7	48
42	T7 replisome directly overcomes DNA damage. *Nature Communications*, **2015**, 6, 10260	17.4	34
41	Dynamic regulation of transcription factors by nucleosome remodeling. *ELife*, **2015**, 4,	8.9	62
40	Nanophotonic trapping for precise manipulation of biomolecular arrays. *Nature Nanotechnology*, **2014**, 9, 448-52	28.7	111
39	DNA Y structure: a versatile, multidimensional single molecule assay. *Nano Letters*, **2014**, 14, 6475-80	11.5	22
38	Discovering the power of single molecules. *Cell*, **2014**, 157, 4-7	56.2	11
37	Single-molecule unzipping force analysis of HU-DNA complexes. *ChemBioChem*, **2013**, 14, 1954-7	3.8	12
36	Torque modulates nucleosome stability and facilitates H2A/H2B dimer loss. *Nature Communications* , **2013**, 4, 2579	17.4	91
35	Torque measurement at the single-molecule level. *Annual Review of Biophysics*, **2013**, 42, 583-604	21.1	63
34	Transcription under torsion. *Science*, **2013**, 340, 1580-3	33.3	190
33	Recent advances in single molecule studies of nucleosomes. *Current Opinion in Structural Biology*, **2012**, 22, 80-7	8.1	41
32	Biochemistry. A DNA twist diffuses and hops. *Science*, **2012**, 338, 56-7	33.3	3
31	Electro-optofluidics: achieving dynamic control on-chip. *Optics Express*, **2012**, 20, 22314-26	3.3	19
30	Unzipping single DNA molecules to study nucleosome structure and dynamics. *Methods in Enzymology*, **2012**, 513, 29-58	1.7	21
29	Direct measurements of torque during Holliday junction migration. *Biophysical Journal*, **2011**, 101, L5-7	2.9	13

28	ATP-induced helicase slippage reveals highly coordinated subunits. *Nature*, **2011**, 478, 132-5	50.4	82
27	Structure and Scm3-mediated assembly of budding yeast centromeric nucleosomes. *Nature Communications*, **2011**, 2, 313	17.4	95
26	Underwound DNA under tension: structure, elasticity, and sequence-dependent behaviors. *Physical Review Letters*, **2011**, 107, 108102	7.4	76
25	A257T linker region mutant of T7 helicase-primase protein is defective in DNA loading and rescued by T7 DNA polymerase. *Journal of Biological Chemistry*, **2011**, 286, 20490-9	5.4	14
24	T7 DNA Polymerase Rescues the DNA Loading Defect of the A257T Linker Region Mutant of T7 Helicase-Primase Protein. *FASEB Journal*, **2011**, 25, 880.5	0.9	
23	Synergistic action of RNA polymerases in overcoming the nucleosomal barrier. *Nature Structural and Molecular Biology*, **2010**, 17, 745-52	17.6	98
22	Comparison of Pause Predictions of Two Sequence-Dependent Transcription Models. *Journal of Statistical Mechanics: Theory and Experiment*, **2010**, 2010,	1.9	7
21	Passive torque wrench and angular position detection using a single-beam optical trap. *Optics Letters*, **2010**, 35, 2949-51	3	28
20	High-resolution dynamic mapping of histone-DNA interactions in a nucleosome. *Nature Structural and Molecular Biology*, **2009**, 16, 124-9	17.6	290
19	Discontinuities at the DNA supercoiling transition. *Physical Review E*, **2009**, 80, 040901	2.4	26
18	Twist-stretch coupling and phase transition during DNA supercoiling. *Physical Chemistry Chemical Physics*, **2009**, 11, 4800-3	3.6	51
17	A biophysicist marvels at the idea of grabbing microscopic particles with light by tweaking its phase. *Nature*, **2008**, 454, 921	50.4	
16	Abrupt buckling transition observed during the plectoneme formation of individual DNA molecules. *Physical Review Letters*, **2008**, 100, 148301	7.4	149
15	Nanofabricated quartz cylinders for angular trapping: DNA supercoiling torque detection. *Nature Methods*, **2007**, 4, 223-5	21.6	138
14	Mechanochemical kinetics of transcription elongation. *Physical Review Letters*, **2007**, 98, 068103	7.4	64
13	Single-molecule studies reveal dynamics of DNA unwinding by the ring-shaped T7 helicase. *Cell*, **2007**, 129, 1299-309	56.2	199
12	Detection of forces and displacements along the axial direction in an optical trap. *Biophysical Journal*, **2006**, 90, 657-67	2.9	42
11	Probing SWI/SNF remodeling of the nucleosome by unzipping single DNA molecules. *Nature Structural and Molecular Biology*, **2006**, 13, 549-54	17.6	83

10	Specific contributions of histone tails and their acetylation to the mechanical stability of nucleosomes. *Journal of Molecular Biology*, **2005**, 346, 135-46	6.5	152
9	Detection of high-affinity and sliding clamp modes for MSH2-MSH6 by single-molecule unzipping force analysis. *Molecular Cell*, **2005**, 20, 771-81	17.6	45
8	Optical torque wrench: angular trapping, rotation, and torque detection of quartz microparticles. *Physical Review Letters*, **2004**, 92, 190801	7.4	258
7	A single-molecule technique to study sequence-dependent transcription pausing. *Biophysical Journal*, **2004**, 87, 3945-53	2.9	47
6	Use of optical trapping techniques to study single-nucleosome dynamics. *Methods in Enzymology*, **2004**, 376, 62-72	1.7	18
5	Sequence-dependent kinetic model for transcription elongation by RNA polymerase. *Journal of Molecular Biology*, **2004**, 344, 335-49	6.5	131
4	Dynamic force spectroscopy of protein-DNA interactions by unzipping DNA. *Physical Review Letters*, **2003**, 91, 028103	7.4	67
3	Single molecule analysis of RNA polymerase elongation reveals uniform kinetic behavior. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 13538-43	11.5	145
2	Mechanical disruption of individual nucleosomes reveals a reversible multistage release of DNA. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 1960-5	11.5	368
1	Probing protein-DNA interactions by unzipping a single DNA double helix. *Biophysical Journal*, **2002**, 83, 1098-105	2.9	107