Keir C Neuman

List of Publications by Citations

82	6,951	29	83
papers	citations	h-index	g-index

115	8,168	9.1	6.2
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
82	Optical trapping. *Review of Scientific Instruments*, **2004**, 75, 2787-809	1.7	1759
81	Single-molecule force spectroscopy: optical tweezers, magnetic tweezers and atomic force microscopy. *Nature Methods*, **2008**, 5, 491-505	21.6	1643
80	Characterization of photodamage to Escherichia coli in optical traps. *Biophysical Journal*, **1999**, 77, 2856-63	2.9	532
79	Ubiquitous transcriptional pausing is independent of RNA polymerase backtracking. *Cell*, **2003**, 115, 437-47	56.2	281
78	High-order harmonic generation in atom clusters. *Physical Review Letters*, **1996**, 76, 2472-2475	7.4	256
77	Sequence-resolved detection of pausing by single RNA polymerase molecules. *Cell*, **2006**, 125, 1083-94	56.2	229
76	Simultaneous, coincident optical trapping and single-molecule fluorescence. *Nature Methods*, **2004**, 1, 133-9	21.6	188
75	Mitochondrial nucleoid interacting proteins support mitochondrial protein synthesis. *Nucleic Acids Research*, **2012**, 40, 6109-21	20.1	139
74	Nonlamellar phases induced by the interaction of gramicidin S with lipid bilayers. A possible relationship to membrane-disrupting activity. *Biochemistry*, **1997**, 36, 7906-16	3.2	128
73	Single-Molecule Micromanipulation Techniques. *Annual Review of Materials Research*, **2007**, 37, 33-67	12.8	124
72	A propagating ATPase gradient drives transport of surface-confined cellular cargo. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 4880-5	11.5	115
71	Silica encapsulation of fluorescent nanodiamonds for colloidal stability and facile surface functionalization. *Journal of the American Chemical Society*, **2013**, 135, 7815-8	16.4	96
70	Membrane-bound MinDE complex acts as a toggle switch that drives Min oscillation coupled to cytoplasmic depletion of MinD. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E1479-88	11.5	76
69	Measurement of the effective focal shift in an optical trap. *Optics Letters*, **2005**, 30, 1318-20	3	75
68	Mechanisms of chiral discrimination by topoisomerase IV. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 6986-91	11.5	72
67	Role of lipid polymorphism in pulmonary surfactant. *Science*, **1996**, 273, 330-2	33.3	67
66	Single-molecule tracking of collagenase on native type I collagen fibrils reveals degradation mechanism. *Current Biology*, **2012**, 22, 1047-56	6.3	66

65	Wide-field in vivo background free imaging by selective magnetic modulation of nanodiamond fluorescence. *Biomedical Optics Express*, **2014**, 5, 1190-202	3.5	65
64	Pulling on the nascent RNA during transcription does not alter kinetics of elongation or ubiquitous pausing. *Molecular Cell*, **2006**, 23, 231-9	17.6	51
63	Directed and persistent movement arises from mechanochemistry of the ParA/ParB system. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E7055-64	11.5	49
62	Direct measurement of DNA bending by type IIA topoisomerases: implications for non-equilibrium topology simplification. *Nucleic Acids Research*, **2011**, 39, 5729-43	20.1	49
61	Brownian Ratchet Mechanism for Faithful Segregation of Low-Copy-Number Plasmids. *Biophysical Journal*, **2017**, 112, 1489-1502	2.9	44
60	Poisoning of mitochondrial topoisomerase I by lamellarin D. *Molecular Pharmacology*, **2014**, 86, 193-9	4.3	43
59	Activities of gyrase and topoisomerase IV on positively supercoiled DNA. *Nucleic Acids Research*, **2017**, 45, 9611-9624	20.1	41
58	A kinetic clutch governs religation by type IB topoisomerases and determines camptothecin sensitivity. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 16125-30	11.5	41
57	Polydopamine encapsulation of fluorescent nanodiamonds for biomedical applications. *Advanced Functional Materials*, **2018**, 28, 1801252	15.6	36
56	madSTORM: a superresolution technique for large-scale multiplexing at single-molecule accuracy. *Molecular Biology of the Cell*, **2016**, 27, 3591-3600	3.5	34
55	Internal strain drives spontaneous periodic buckling in collagen and regulates remodeling. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8436-41	11.5	33
54	Role of the water-metal ion bridge in mediating interactions between quinolones and Escherichia coli topoisomerase IV. *Biochemistry*, **2014**, 53, 5558-67	3.2	32
53	Single-molecule measurements of DNA topology and topoisomerases. *Journal of Biological Chemistry*, **2010**, 285, 18967-71	5.4	29
52	Magnetic tweezers for single-molecule manipulation. *Methods in Molecular Biology*, **2011**, 783, 265-93	1.4	29
51	A heterotrimer model of the complete Microprocessor complex revealed by single-molecule subunit counting. *Rna*, **2016**, 22, 175-83	5.8	28
50	Comparison of DNA decatenation by Escherichia coli topoisomerase IV and topoisomerase III: implications for non-equilibrium topology simplification. *Nucleic Acids Research*, **2013**, 41, 4640-9	20.1	27
49	Shuttling along DNA and directed processing of D-loops by RecQ helicase support quality control of homologous recombination. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E466-E475	11.5	26
48	Biocompatible Fluorescent Nanodiamonds as Multifunctional Optical Probes for Latent Fingerprint Detection. *ACS Applied Materials & Interfaces*, **2020**, 12, 6641-6650	9.5	25

47	Statistical determination of the step size of molecular motors. *Journal of Physics Condensed Matter*, **2005**, 17, S3811-20	1.8	23
46	Brownian ratchet mechanisms of ParA-mediated partitioning. *Plasmid*, **2017**, 92, 12-16	3.3	22
45	Chiral discrimination and writhe-dependent relaxation mechanism of human topoisomerase II *Journal of Biological Chemistry*, **2013**, 288, 13695-703	5.4	22
44	Single-molecule measurements of topoisomerase activity with magnetic tweezers. *Methods in Molecular Biology*, **2011**, 778, 229-41	1.4	20
43	A moving ParA gradient on the nucleoid directs subcellular cargo transport via a chemophoresis force. *Bioarchitecture*, **2014**, 4, 154-9		18
42	Single molecule measurements of DNA helicase activity with magnetic tweezers and t-test based step-finding analysis. *Methods*, **2016**, 105, 119-27	4.6	18
41	Direct observation of topoisomerase IA gate dynamics. *Nature Structural and Molecular Biology*, **2018**, 25, 1111-1118	17.6	18
40	RecQ helicase triggers a binding mode change in the SSB-DNA complex to efficiently initiate DNA unwinding. *Nucleic Acids Research*, **2017**, 45, 11878-11890	20.1	17
39	Use of divalent metal ions in the DNA cleavage reaction of topoisomerase IV. *Nucleic Acids Research* , **2011**, 39, 4808-17	20.1	17
38	DNA topoisomerases: Advances in understanding of cellular roles and multi-protein complexes via structure-function analysis. *BioEssays*, **2021**, 43, e2000286	4.1	17
37	Supercoiling DNA Locates Mismatches. *Physical Review Letters*, **2017**, 119, 147801	7.4	16
36	A minimal threshold of FANCJ helicase activity is required for its response to replication stress or double-strand break repair. *Nucleic Acids Research*, **2018**, 46, 6238-6256	20.1	15
35	The HRDC domain of E. coli RecQ helicase controls single-stranded DNA translocation and double-stranded DNA unwinding rates without affecting mechanoenzymatic coupling. *Scientific Reports*, **2015**, 5, 11091	4.9	14
34	Quantitative characterization of fluorophores in multi-component nanoprobes by single-molecule fluorescence. *Biomedical Optics Express*, **2011**, 2, 2761-9	3.5	14
33	The dynamic interplay between DNA topoisomerases and DNA topology. *Biophysical Reviews*, **2016**, 8, 101-111	3.7	13
32	Tethered-bead, immune sandwich assay. *Biosensors and Bioelectronics*, **2015**, 63, 117-123	11.8	11
31	Single-Molecule Supercoil Relaxation Assay as a Screening Tool to Determine the Mechanism and Efficacy of Human Topoisomerase IB Inhibitors. *Molecular Cancer Therapeutics*, **2015**, 14, 2552-9	6.1	11
30	Mutational analysis of the helicase-like domain of Thermotoga maritima reverse gyrase. *Journal of Biological Chemistry*, **2008**, 283, 27395-27402	5.4	11

29	SnapShot: force spectroscopy and single-molecule manipulation. *Cell*, **2013**, 153, 1168-1168.e1	56.2	10
28	Surface Modification of Fluorescent Nanodiamonds for Biological Applications. *Nanomaterials*, **2021**, 11,	5.4	10
27	Combined Magnetic Tweezers and Micro-mirror Total Internal Reflection Fluorescence Microscope for Single-Molecule Manipulation and Visualization. *Methods in Molecular Biology*, **2018**, 1665, 297-316	1.4	8
26	The Dynamic Interplay Between DNA Topoisomerases and DNA Topology. *Biophysical Reviews*, **2016**, 8, 221-231	3.7	8
25	Bimodal Actions of a Naphthyridone/Aminopiperidine-Based Antibacterial That Targets Gyrase and Topoisomerase IV. *Biochemistry*, **2019**, 58, 4447-4455	3.2	8
24	CTP and coordinate ParB partition complex dynamics and ParA-ATPase activation for ParABS-mediated DNA partitioning. *ELife*, **2021**, 10,	8.9	8
23	A robust assay to measure DNA topology-dependent protein binding affinity. *Nucleic Acids Research*, **2015**, 43, e43	20.1	7
22	Defect-facilitated buckling in supercoiled double-helix DNA. *Physical Review E*, **2018**, 97, 022416	2.4	6
21	Mapping DNA Topoisomerase Binding and Cleavage Genome Wide Using Next-Generation Sequencing Techniques. *Genes*, **2020**, 11,	4.2	5
20	SnapShot: single-molecule fluorescence. *Cell*, **2013**, 153, 1408-1408.e1	56.2	5
19	Wavelength dependence of harmonic generation efficiency at metal surfaces induced by femtosecond Ti:sapphire laser pulses. *Optics Communications*, **1996**, 132, 289-294	2	5
18	Homology sensing via non-linear amplification of sequence-dependent pausing by RecQ helicase. *ELife*, **2019**, 8,	8.9	5
17	Highly stable cesium lead bromide perovskite nanocrystals for ultra-sensitive and selective latent fingerprint detection. *Analytica Chimica Acta*, **2021**, 1181, 338850	6.6	5
16	Distribution bias and biochemical characterization of TOP1MT single nucleotide variants. *Scientific Reports*, **2017**, 7, 8614	4.9	4
15	Highly Multiplexed, Super-resolution Imaging of T Cells Using madSTORM. *Journal of Visualized Experiments*, **2017**,	1.6	4
14	Robust fluorescent labelling of micropipettes for use in fluorescence microscopy: application to the observation of a mosquito borne parasite infection. *Journal of Microscopy*, **2018**, 269, 78-84	1.9	4
13	Kinetic Pathway of Torsional DNA Buckling. *Journal of Physical Chemistry B*, **2018**, 122, 11561-11570	3.4	4
12	Bioimaging: Polydopamine Encapsulation of Fluorescent Nanodiamonds for Biomedical Applications (Adv. Funct. Mater. 33/2018). *Advanced Functional Materials*, **2018**, 28, 1870234	15.6	3

11	Evolutionary twist on topoisomerases: conversion of gyrase to topoisomerase IV. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 22363-4	11.5	3
10	Wide-Field Background Free Imaging by Magnetic Modulation of Nanodiamond Fluorescence. *Biophysical Journal*, **2014**, 106, 796a	2.9	2
9	Coarse-grained modelling of DNA plectoneme pinning in the presence of base-pair mismatches. *Nucleic Acids Research*, **2020**, 48, 10713-10725	20.1	2
8	CTP and parS coordinate ParB partition complex dynamics and ParA-ATPase activation for ParABS-mediated DNA partitioning		2
7	Matrix Metallopeptidase 9/Gelatinase B **2013**, 754-763		1
6	Untwisting and Unzipping: Magnetic Tweezers Based Measurements of DNA Processing Enzymes **2015**,		1
5	Studies of DNA-Protein Interactions at the Single Molecule Level with Magnetic Tweezers **2007**, 123-140		1
4	The toposiomerase IIIalpha-RMI1-RMI2 complex orients human Bloom's syndrome helicase for efficient disruption of D-loops.. *Nature Communications*, **2022**, 13, 654	17.4	0
3	The tail that wags the dog: topoisomerase IV ParC C-terminal domain controls strand passage activity through multipartite topology-dependent interactions with DNA. *Journal of Molecular Biology*, **2013**, 425, 3025-8	6.5	
2	Fluorescent Nanodiamonds as Fiducial Markers or Nanodiamonds Are Forever.. *Microscopy and Microanalysis*, **2016**, 22, 1018-1019	0.5	
1	Glutamate Brings Out the Flavor of SSB Cooperativity and Phase Separation.. *Journal of Molecular Biology*, **2022**, 434, 167580	6.5	