Yann R Chemla

List of Publications by Year
in descending order

57 papers	5,102 citations	159358 30 h-index	149479 56 g-index
70 all docs	70 docs citations	70 times ranked	4592 citing authors

#	Article	IF	Citations
1	Switch-like control of helicase processivity by single-stranded DNA binding protein. ELife, 2021, 10, .	2.8	7
2	Optical tweezers in single-molecule biophysics. Nature Reviews Methods Primers, 2021, 1, .	11.8	229
3	A viral genome packaging ring-ATPase is a flexibly coordinated pentamer. Nature Communications, 2021, 12, 6548.	5.8	10
4	Kinetic and structural mechanism for DNA unwinding by a non-hexameric helicase. Nature Communications, 2021, 12, 7015.	5.8	10
5	ALS/FTLD-Linked Mutations in FUS Glycine Residues Cause Accelerated Gelation and Reduced Interactions with Wild-Type FUS. Molecular Cell, 2020, 80, 666-681.e8.	4.5	62
6	Blue Light Is a Universal Signal for Escherichia coli Chemoreceptors. Journal of Bacteriology, 2019, 201, .	1.0	15
7	Extreme mechanical diversity of human telomeric DNA revealed by fluorescence-force spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8350-8359.	3.3	41
8	Regulation of Rep helicase unwinding by an auto-inhibitory subdomain. Nucleic Acids Research, 2019, 47, 2523-2532.	6.5	24
9	Multiple kinesins induce tension for smooth cargo transport. ELife, 2019, 8, .	2.8	13
10	Ultrashort Nucleic Acid Duplexes Exhibit Long Wormlike Chain Behavior with Force-Dependent Edge Effects. Physical Review Letters, 2018, 120, 068102.	2.9	12
11	Free-energy simulations reveal molecular mechanism for functional switch of a DNA helicase. ELife, 2018, 7, .	2.8	15
12	Mapping cell surface adhesion by rotation tracking and adhesion footprinting. Scientific Reports, 2017, 7, 44502.	1.6	27
13	Altering the speed of a DNA packaging motor from bacteriophage T4. Nucleic Acids Research, 2017, 45, 11437-11448.	6.5	9
14	Elasticity of the transition state for oligonucleotide hybridization. Nucleic Acids Research, 2017, 45, 547-555.	6.5	29
15	High-Resolution Optical Tweezers Combined With Single-Molecule Confocal Microscopy. Methods in Enzymology, 2017, 582, 137-169.	0.4	23
16	High-Resolution â€œFleezersâ€• Dual-Trap Optical Tweezers Combined with Single-Molecule Fluorescence Detection. Methods in Molecular Biology, 2017, 1486, 183-256.	0.4	37
17	Defining Single Molecular Forces Required for Notch Activation Using Nano Yoyo. Nano Letters, 2016, 16, 3892-3897.	4.5	73
18	Constructing modular and universal single molecule tension sensor using protein G to study mechano-sensitive receptors. Scientific Reports, 2016, 6, 21584.	1.6	44

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19	Highâ€resolution, hybrid optical trapping methods, and their application to nucleic acid processing proteins. Biopolymers, 2016, 105, 704-714.	1.2	19
20	Direct observation of structure-function relationship in a nucleic acidâ€“processing enzyme. Science, 2015, 348, 352-354.	6.0	161
21	Engineering of a superhelicase through conformational control. Science, 2015, 348, 344-347.	6.0	88
22	The Behavioral Space of Zebrafish Locomotion and Its Neural Network Analog. PLoS ONE, 2015, 10, e0128668.	1.1	39
23	Structural dynamics of E. coli single-stranded DNA binding protein reveal DNA wrapping and unwrapping pathways. ELife, 2015, 4, .	2.8	78
24	A Nutrient-Tunable Bistable Switch Controls Motility in Salmonella enterica Serovar Typhimurium. MBio, 2014, 5, e01611-14.	1.8	71
25	Ultraslow relaxation of confined DNA. Science, 2014, 345, 380-381.	6.0	8
26	Escherichia coli swimming is robust against variations in flagellar number. ELife, 2014, 3, e01916.	2.8	65
27	In vivo optical trapping indicates kinesinâ€™s stall force is reduced by dynein during intracellular transport. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3381-3386.	3.3	110
28	DNA target sequence identification mechanism for dimer-active protein complexes. Nucleic Acids Research, 2013, 41, 2416-2427.	6.5	8
29	Sequence-dependent base pair stepping dynamics in XPD helicase unwinding. ELife, 2013, 2, e00334.	2.8	72
30	Chemotactic adaptation kinetics of individual Escherichia coli cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9869-9874.	3.3	44
31	The dynamic pause-unpackaging state, an off-translocation recovery state of a DNA packaging motor from bacteriophage T4. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20000-20005.	3.3	34
32	Single-Molecule Studies of Viral DNA Packaging. Advances in Experimental Medicine and Biology, 2012, 726, 549-584.	0.8	38
33	Better biomolecule thermodynamics from kinetics. Journal of Chemical Physics, 2011, 135, 015102.	1.2	27
34	Ultrahigh-resolution optical trap with single-fluorophore sensitivity. Nature Methods, 2011, 8, 335-340.	9.0	176
35	A Promiscuous DNA Packaging Machine from Bacteriophage T4. PLoS Biology, 2011, 9, e1000592.	2.6	53
36	FliZ Induces a Kinetic Switch in Flagellar Gene Expression. Journal of Bacteriology, 2010, 192, 6477-6481.	1.0	32

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37	Mechanistic constraints from the substrate concentration dependence of enzymatic fluctuations. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15739-15744.	3.3	34
38	Methods in Statistical Kinetics. Methods in Enzymology, 2010, 475, 221-257.	0.4	53
39	A Comparative Study of Multivariate and Univariate Hidden Markov Modelings in Time-Binned Single-Molecule FRET Data Analysis. Journal of Physical Chemistry B, 2010, 114, 5386-5403.	1.2	57
40	Revealing the base pair stepping dynamics of nucleic acid motor proteins with optical traps. Physical Chemistry Chemical Physics, 2010, 12, 3080.	1.3	22
41	Proofreading dynamics of a processive DNA polymerase. EMBO Journal, 2009, 28, 2794-2802.	3.5	98
42	Intersubunit coordination in a homomeric ring ATPase. Nature, 2009, 457, 446-450.	13.7	266
43	Substrate interactions and promiscuity in a viral DNA packaging motor. Nature, 2009, 461, 669-673.	13.7	107
44	High-resolution, long-term characterization of bacterial motility using optical tweezers. Nature Methods, 2009, 6, 831-835.	9.0	139
45	Characterization of Photoactivated Singlet Oxygen Damage in Single-Molecule Optical Trap Experiments. Biophysical Journal, 2009, 97, 2128-2136.	0.2	115
46	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: An Introduction: Figure 1.. Cold Spring Harbor Protocols, 2009, 2009, pdb.top60.	0.2	16
47	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Minimizing the Influence of Measurement Noise. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip75-pdb.ip75.	0.2	5
48	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Data Collection and Instrument Calibration: Figure 1.. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip74.	0.2	7
49	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Alignment of Instrument Components. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip76-pdb.ip76.	0.2	10
50	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Managing Environmental Noise. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip72-pdb.ip72.	0.2	8
51	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Instrument Design. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip73.	0.2	24
52	Exact Solutions for Kinetic Models of Macromolecular Dynamics. Journal of Physical Chemistry B, 2008, 112, 6025-6044.	1.2	81
53	Recent Advances in Optical Tweezers. Annual Review of Biochemistry, 2008, 77, 205-228.	5.0	995
54	Differential detection of dual traps improves the spatial resolution of optical tweezers. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9006-9011.	3.3	277

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55	Mechanism of Force Generation of a Viral DNA Packaging Motor. Cell, 2005, 122, 683-692.	13.5	258
56	Mechanical Processes in Biochemistry. Annual Review of Biochemistry, 2004, 73, 705-748.	5.0	721
57	<title>Superconducting quantum interference device detection of magnetically tagged micro-organisms</title>. , 2002, 4576, 122.		0