Yann R Chemla

List of Publications by Year
in descending order

57 papers	5,102 citations	159585 30 h-index	149698 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, .	6.0	7
2	Optical tweezers in single-molecule biophysics. Nature Reviews Methods Primers, 2021, 1, .	21.2	229
3	A viral genome packaging ring-ATPase is a flexibly coordinated pentamer. Nature Communications, 2021, 12, 6548.	12.8	10
4	Kinetic and structural mechanism for DNA unwinding by a non-hexameric helicase. Nature Communications, 2021, 12, 7015.	12.8	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.	9.7	62
6	Blue Light Is a Universal Signal for <i>Escherichia coli</i> Chemoreceptors. Journal of Bacteriology, 2019, 201, .	2.2	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.	7.1	41
8	Regulation of Rep helicase unwinding by an auto-inhibitory subdomain. Nucleic Acids Research, 2019, 47, 2523-2532.	14.5	24
9	Multiple kinesins induce tension for smooth cargo transport. ELife, 2019, 8, .	6.0	13
10	Ultrashort Nucleic Acid Duplexes Exhibit Long Wormlike Chain Behavior with Force-Dependent Edge Effects. Physical Review Letters, 2018, 120, 068102.	7.8	12
11	Free-energy simulations reveal molecular mechanism for functional switch of a DNA helicase. ELife, 2018, 7, .	6.0	15
12	Mapping cell surface adhesion by rotation tracking and adhesion footprinting. Scientific Reports, 2017, 7, 44502.	3.3	27
13	Altering the speed of a DNA packaging motor from bacteriophage T4. Nucleic Acids Research, 2017, 45, 11437-11448.	14.5	9
14	Elasticity of the transition state for oligonucleotide hybridization. Nucleic Acids Research, 2017, 45, 547-555.	14.5	29
15	High-Resolution Optical Tweezers Combined With Single-Molecule Confocal Microscopy. Methods in Enzymology, 2017, 582, 137-169.	1.0	23
16	High-Resolution â€œFleezersâ€ Dual-Trap Optical Tweezers Combined with Single-Molecule Fluorescence Detection. Methods in Molecular Biology, 2017, 1486, 183-256.	0.9	37
17	Defining Single Molecular Forces Required for Notch Activation Using Nano Yoyo. Nano Letters, 2016, 16, 3892-3897.	9.1	73
18	Constructing modular and universal single molecule tension sensor using protein G to study mechano-sensitive receptors. Scientific Reports, 2016, 6, 21584.	3.3	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.	2.4	19
20	Direct observation of structure-function relationship in a nucleic acidâ€"processing enzyme. Science, 2015, 348, 352-354.	12.6	161
21	Engineering of a superhelicase through conformational control. Science, 2015, 348, 344-347.	12.6	88
22	The Behavioral Space of Zebrafish Locomotion and Its Neural Network Analog. PLoS ONE, 2015, 10, e0128668.	2.5	39
23	Structural dynamics of E. coli single-stranded DNA binding protein reveal DNA wrapping and unwrapping pathways. ELife, 2015, 4, .	6.0	78
24	A Nutrient-Tunable Bistable Switch Controls Motility in Salmonella enterica Serovar Typhimurium. MBio, 2014, 5, e01611-14.	4.1	71
25	Ultraslow relaxation of confined DNA. Science, 2014, 345, 380-381.	12.6	8
26	Escherichia coli swimming is robust against variations in flagellar number. ELife, 2014, 3, e01916.	6.0	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.	7.1	110
28	DNA target sequence identification mechanism for dimer-active protein complexes. Nucleic Acids Research, 2013, 41, 2416-2427.	14.5	8
29	Sequence-dependent base pair stepping dynamics in XPD helicase unwinding. ELife, 2013, 2, e00334.	6.0	72
30	Chemotactic adaptation kinetics of individual <i>Escherichia coli</i> cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9869-9874.	7.1	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.	7.1	34
32	Single-Molecule Studies of Viral DNA Packaging. Advances in Experimental Medicine and Biology, 2012, 726, 549-584.	1.6	38
33	Better biomolecule thermodynamics from kinetics. Journal of Chemical Physics, 2011, 135, 015102.	3.0	27
34	Ultrahigh-resolution optical trap with single-fluorophore sensitivity. Nature Methods, 2011, 8, 335-340.	19.0	176
35	A Promiscuous DNA Packaging Machine from Bacteriophage T4. PLoS Biology, 2011, 9, e1000592.	5.6	53
36	FliZ Induces a Kinetic Switch in Flagellar Gene Expression. Journal of Bacteriology, 2010, 192, 6477-6481.	2.2	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.	7.1	34
38	Methods in Statistical Kinetics. Methods in Enzymology, 2010, 475, 221-257.	1.0	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.	2.6	57
40	Revealing the base pair stepping dynamics of nucleic acid motor proteins with optical traps. Physical Chemistry Chemical Physics, 2010, 12, 3080.	2.8	22
41	Proofreading dynamics of a processive DNA polymerase. EMBO Journal, 2009, 28, 2794-2802.	7.8	98
42	Intersubunit coordination in a homomeric ring ATPase. Nature, 2009, 457, 446-450.	27.8	266
43	Substrate interactions and promiscuity in a viral DNA packaging motor. Nature, 2009, 461, 669-673.	27.8	107
44	High-resolution, long-term characterization of bacterial motility using optical tweezers. Nature Methods, 2009, 6, 831-835.	19.0	139
45	Characterization of Photoactivated Singlet Oxygen Damage in Single-Molecule Optical Trap Experiments. Biophysical Journal, 2009, 97, 2128-2136.	0.5	115
46	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: An Introduction: Figure 1.. Cold Spring Harbor Protocols, 2009, 2009, pdb.top60.	0.3	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.	0.3	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.	0.3	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.	0.3	10
50	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Managing Environmental Noise. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip72-pdb.ip72.	0.3	8
51	High-Resolution Dual-Trap Optical Tweezers with Differential Detection: Instrument Design. Cold Spring Harbor Protocols, 2009, 2009, pdb.ip73.	0.3	24
52	Exact Solutions for Kinetic Models of Macromolecular Dynamics. Journal of Physical Chemistry B, 2008, 112, 6025-6044.	2.6	81
53	Recent Advances in Optical Tweezers. Annual Review of Biochemistry, 2008, 77, 205-228.	11.1	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.	7.1	277

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55	Mechanism of Force Generation of a Viral DNA Packaging Motor. Cell, 2005, 122, 683-692.	28.9	258
56	Mechanical Processes in Biochemistry. Annual Review of Biochemistry, 2004, 73, 705-748.	11.1	721
57	<title>Superconducting quantum interference device detection of magnetically tagged micro-organisms</title>. , 2002, 4576, 122.		0