Nancy R Forde

List of Publications by Year
in descending order

74 papers	2,037 citations	361296 20 h-index	243529 44 g-index
82 all docs	82 docs citations	82 times ranked	2382 citing authors

#	Article	IF	Citations
1	Through the Eyes of Creators: Observing Artificial Molecular Motors. ACS Nanoscience Au, 2022, 2, 140-159.	2.0	7
2	Line optical tweezers as controllable micromachines: techniques and emerging trends. Soft Matter, 2022, 18, 5359-5365.	1.2	8
3	Substrate stiffness tunes the dynamics of polyvalent rolling motors. Soft Matter, 2021, 17, 1468-1479.	1.2	20
4	Multivalent Diffusive Transport. Journal of Physical Chemistry B, 2021, 125, 6857-6863.	1.2	7
5	AutoSmarTrace: Automated chain tracing and flexibility analysis of biological filaments. Biophysical Journal, 2021, 120, 2599-2608.	0.2	5
6	Sequence-dependent mechanics of collagen reflect its structural and functional organization. Biophysical Journal, 2021, 120, 4013-4028.	0.2	8
7	Synthetic biology approaches to dissecting linear motor protein function: towards the design and synthesis of artificial autonomous protein walkers. Biophysical Reviews, 2020, 12, 1041-1054.	1.5	12
8	Optical Tweezers Approaches for Probing Multiscale Protein Mechanics and Assembly. Frontiers in Molecular Biosciences, 2020, 7, 577314.	1.6	15
9	Apparent superballistic dynamics in one-dimensional random walks with biased detachment. Physical Review Research, 2020, 2, .	1.3	10
10	Mechanics and structural stability of the collagen triple helix. Current Opinion in Chemical Biology, 2019, 53, 98-105.	2.8	59
11	A chloride ring is an ancient evolutionary innovation mediating the assembly of the collagen IV scaffold of basement membranes. Journal of Biological Chemistry, 2019, 294, 7968-7981.	1.6	11
12	The bar-hinge motor: a synthetic protein design exploiting conformational switching to achieve directional motility. New Journal of Physics, 2019, 21, 013002.	1.2	4
13	Single-Molecule Assay for Proteolytic Susceptibility: Force-Induced Collagen Destabilization. Biophysical Journal, 2018, 114, 570-576.	0.2	28
14	Genetically modified human type II collagen for N- and C-terminal covalent tagging. Canadian Journal of Chemistry, 2018, 96, 204-211.	0.6	0
15	Single-Molecule Assay for Proteolytic Susceptibility: Force-Induced Destabilization of Collagen's Triple Helix. Biophysical Journal, 2018, 114, 578a.	0.2	0
16	Dimensionality-dependent crossover in motility of polyvalent burnt-bridges ratchets. Physical Review E, 2018, 98, .	0.8	19
17	Modified Pluronic F127 Surface for Bioconjugation and Blocking Nonspecific Adsorption of Microspheres and Biomacromolecules. Langmuir, 2018, 34, 13550-13557.	1.6	14
18	Environmentally Controlled Curvature of Single Collagen Proteins. Biophysical Journal, 2018, 115, 1457-1469.	0.2	37

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19	Construction of a Chassis for a Tripartite Protein-Based Molecular Motor. ACS Synthetic Biology, 2017, 6, 1096-1102.	1.9	11
20	Nano-Mechanical Studies of Collagen: The Influence of Ionic Strength, pH and Collagen Sources on Molecular Flexibility. Biophysical Journal, 2017, 112, 488a.	0.2	2
21	Effects of finite and discrete sampling and blur on microrheology experiments. Optics Express, 2017, 25, 31239.	1.7	6
22	Intact Telopeptides Enhance Interactions between Collagens. Biophysical Journal, 2016, 111, 2404-2416.	0.2	34
23	Development and characterization of a eukaryotic expression system for human type II procollagen. BMC Biotechnology, 2015, 15, 112.	1.7	21
24	Motor properties from persistence: a linear molecular walker lacking spatial and temporal asymmetry. New Journal of Physics, 2015, 17, 055017.	1.2	8
25	Design and Construction of the Lawnmower, An Artificial Burnt-Bridges Motor. IEEE Transactions on Nanobioscience, 2015, 14, 305-312.	2.2	13
26	Investigating Force-Induced Structural Changes in Single Collagen Molecules. Biophysical Journal, 2015, 108, 171a.	0.2	0
27	Probing Telopeptide-Induced Collagen-Collagen Interactions Using Optical-Tweezers-Based Microrheology. , 2015, , .		0
28	Fluidic switching in nanochannels for the control of Inchworm: a synthetic biomolecular motor with a power stroke. Nanoscale, 2014, 6, 15008-15019.	2.8	12
29	Investigating the Mechanism of Collagen Self-Assembly with Microrheology. Biophysical Journal, 2014, 106, 55a.	0.2	1
30	Construction and Characterization of Kilobasepair Densely Labeled Peptide-DNA. Biomacromolecules, 2014, 15, 4065-4072.	2.6	16
31	Investigating Mechanical Properties of Short Polymers with Optical Tweezers. Biophysical Journal, 2014, 106, 390a.	0.2	0
32	Introducing a Kinesin-Inspired Nanomotor Concept. Biophysical Journal, 2014, 106, 782a.	0.2	0
33	Light Driven Conformational Switching: An Approach to Creating Designed Protein Motion. Biophysical Journal, 2014, 106, 244a-245a.	0.2	0
34	Controlled microfluidic switching in arbitrary time-sequences with low drag. Lab on A Chip, 2013, 13, 2389.	3.1	10
35	The Lawnmower: An Autonomous Synthetic Protein Motor. Biophysical Journal, 2013, 104, 545a.	0.2	0
36	Probing multiscale mechanics of collagen with optical tweezers. Proceedings of SPIE, 2013, , .	0.8	10

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37	Microrheological Characterization of Collagen Systems: From Molecular Solutions to Fibrillar Gels. PLoS ONE, 2013, 8, e70590.	1.1	92
38	Design and Construction of a One-Dimensional DNA Track for an Artificial Molecular Motor. Journal of Nanomaterials, 2012, 2012, 1-10.	1.5	7
39	Probing the Viscoelasticity of Collagen Solutions via Optical-Tweezers-Based Microrheology. Materials Research Society Symposia Proceedings, 2012, 1465, 20.	0.1	3
40	Using DNA Handles in Optical Tweezers Studies of Protein Mechanics. Biophysical Journal, 2012, 102, 578a.	0.2	1
41	Microfluidic Device for Controlled Fluid Switching to be used with Chemically Powered Molecular Motors on Surface Bound Tracks. Biophysical Journal, 2012, 102, 717a.	0.2	0
42	Squaring the Circle in Peptide Assembly: From Fibers to Discrete Nanostructures by <i>de Novo</i> Design. Journal of the American Chemical Society, 2012, 134, 15457-15467.	6.6	87
43	The Inchworm: Construction of a Biomolecular Motor with a Power Stroke. Biophysical Journal, 2012, 102, 206a.	0.2	0
44	Motor Properties of Molecular Spiders. Biophysical Journal, 2011, 100, 304a-305a.	0.2	0
45	Probing the Viscoelasticity of Collagen Solutions with Optical-Tweezers-Based Microrheology. Biophysical Journal, 2011, 100, 483a-484a.	0.2	1
46	Conceptual Models for Synthetic Bipedal Motors. Biophysical Journal, 2011, 100, 441a.	0.2	0
47	Positional stability of holographic optical traps. Optics Express, 2011, 19, 21370.	1.7	16
48	Time-dependent motor properties of multipedal molecular spiders. Physical Review E, 2011, 84, 031111.	0.8	29
49	Tuning the performance of an artificial protein motor. Physical Review E, 2011, 84, 031922.	0.8	9
50	Using optical tweezers to study mechanical properties of collagen. , 2011, , .		10
51	Stretching single DNA molecules to demonstrate highâ€force capabilities of holographic optical tweezers. Journal of Biophotonics, 2010, 3, 224-233.	1.1	35
52	Biased motion and molecular motor properties of bipedal spiders. Physical Review E, 2010, 81, 021106.	0.8	30
53	Stretching Single DNA Molecules and using High-Speed Camera Power Spectral Analysis to Demonstrate High Force Capabilities of Holographic Optical Tweezers. Biophysical Journal, 2010, 98, 624a.	0.2	0
54	Probing the Mechanical Properties of Single Scleroproteins with Optical Tweezers. Biophysical Journal, 2010, 98, 593a.	0.2	0

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55	Power spectral analysis for optical trap stiffness calibration from high-speed camera position detection with limited bandwidth. Optics Express, 2010, 18, 7670.	1.7	58
56	Biased Motion and Molecular Motor Properties of Molecular Spiders. Biophysical Journal, 2010, 98, 572a.	0.2	0
57	Synthetic, Protein-Based Molecular Motors. Biophysical Journal, 2009, 96, 300a.	0.2	0
58	The Tumbleweed: Towards a synthetic protein motor. HFSP Journal, 2009, 3, 204-212.	2.5	35
59	Simulations of a Molecular Motor: Influence of Leg Number and Substrate Dimensionality on the â€œMolecular Spiderâ€. Biophysical Journal, 2009, 96, 301a.	0.2	0
60	Calibration of Holographic Optical Tweezers for Force Measurements onÂBiomaterials. Biophysical Journal, 2009, 96, 386a.	0.2	1
61	Probing the Elasticity of Short Proteins with Optical Tweezers. , 2009, , .		3
62	Position and Intensity Modulations in Holographic Optical Traps Created by a Liquid Crystal Spatial Light Modulator. , 2009, , .		2
63	Thermal Probing of E. coli RNA Polymerase Off-Pathway Mechanisms. Journal of Molecular Biology, 2008, 382, 628-637.	2.0	66
64	Calibration of dynamic holographic optical tweezers for force measurements on biomaterials. Optics Express, 2008, 16, 20987.	1.7	75
65	Comment on â€œDirect Measurement of the Oscillation Frequency in an Optical-Tweezers Trap by Parametric Excitationâ€. Physical Review Letters, 2007, 98, 189802; author reply 189803.	2.9	4
66	Brownian motion in a modulated optical trap. Journal of Optics, 2007, 9, S256-S263.	1.5	38
67	Mechanical Processes in Biochemistry. Annual Review of Biochemistry, 2004, 73, 705-748.	5.0	721
68	Using mechanical force to probe the mechanism of pausing and arrest during continuous elongation by Escherichia coli RNA polymerase. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11682-11687.	3.3	138
69	Characterization of nitrogen-containing radical products from the photodissociation of trimethylamine using photoionization detection. Journal of Chemical Physics, 2000, 113, 3088-3097.	1.2	11
70	Electronic accessibility of dissociation channels in an amide: N,N-dimethylformamide photodissociation at 193 nm. Journal of Chemical Physics, 1999, 110, 8954-8968.	1.2	44
71	Photodissociating trimethylamine at 193 nm to probe dynamics at a conical intersection and to calibrate detection efficiency of radical products. Journal of Chemical Physics, 1999, 111, 4558-4568.	1.2	17
72	The influence of local electronic character and nonadiabaticity in the photodissociation of nitric acid at 193 nm. Journal of Chemical Physics, 1997, 107, 5361-5373.	1.2	36

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73	Chemical reaction dynamics when the Bornâ€"Oppenheimer approximation fails Understanding which changes in the electronic wavefunction might be restricted. Faraday Discussions, 1997, 108, 221-242.	1.6	30
74	Photodissociation of Acrylic Acid at 193 nm. Journal of Physical Chemistry A, 1997, 101, 6603-6610.	1.1	26