

# Bernard Yurke

## List of Publications by Year in descending order

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90  
papers

11,106  
citations

71102

41  
h-index

45317

90  
g-index

91  
all docs

91  
docs citations

91  
times ranked

7908  
citing authors

#	ARTICLE	IF	CITATIONS
1	A DNA-fuelled molecular machine made of DNA. <i>Nature</i> , 2000, 406, 605-608.	27.8	2,247
2	SU(2) and SU(1,1) interferometers. <i>Physical Review A</i> , 1986, 33, 4033-4054.	2.5	1,078
3	Engineering Entropy-Driven Reactions and Networks Catalyzed by DNA. <i>Science</i> , 2007, 318, 1121-1125.	12.6	1,022
4	Principles and Applications of Nucleic Acid Strand Displacement Reactions. <i>Chemical Reviews</i> , 2019, 119, 6326-6369.	47.7	506
5	Measurement of the Force-Velocity Relation for Growing Microtubules. <i>Science</i> , 1997, 278, 856-860.	12.6	486
6	On the biophysics and kinetics of toehold-mediated DNA strand displacement. <i>Nucleic Acids Research</i> , 2013, 41, 10641-10658.	14.5	423
7	Quantum network theory. <i>Physical Review A</i> , 1984, 29, 1419-1437.	2.5	308
8	Chiral plasmonic DNA nanostructures with switchable circular dichroism. <i>Nature Communications</i> , 2013, 4, 2948.	12.8	289
9	Using DNA to Power Nanostructures. <i>Genetic Programming and Evolvable Machines</i> , 2003, 4, 111-122.	2.2	279
10	Use of cavities in squeezed-state generation. <i>Physical Review A</i> , 1984, 29, 408-410.	2.5	247
11	Programmable Periodicity of Quantum Dot Arrays with DNA Origami Nanotubes. <i>Nano Letters</i> , 2010, 10, 3367-3372.	9.1	220
12	Mechanical Properties of a Reversible, DNA-Crosslinked Polyacrylamide Hydrogel. <i>Journal of Biomechanical Engineering</i> , 2004, 126, 104-110.	1.3	214
13	Catalyzed Relaxation of a Metastable DNA Fuel. <i>Journal of the American Chemical Society</i> , 2006, 128, 12211-12220.	13.7	164
14	A magnetic manipulator for studying local rheology and micromechanical properties of biological systems. <i>Review of Scientific Instruments</i> , 1996, 67, 818-827.	1.3	158
15	Generation of superpositions of classically distinguishable quantum states from optical back-action evasion. <i>Physical Review A</i> , 1990, 41, 5261-5264.	2.5	149
16	Squeezed-coherent-state generation via four-wave mixers and detection via homodyne detectors. <i>Physical Review A</i> , 1985, 32, 300-310.	2.5	148
17	Bell's-inequality experiments using independent-particle sources. <i>Physical Review A</i> , 1992, 46, 2229-2234.	2.5	148
18	Controlled Trapping and Release of Quantum Dots in a DNA-Switchable Hydrogel. <i>Small</i> , 2007, 3, 1688-1693.	10.0	148

#	ARTICLE	IF	CITATIONS
19	Einstein-Podolsky-Rosen effects from independent particle sources. <i>Physical Review Letters</i> , 1992, 68, 1251-1254.	7.8	145
20	Late-time coarsening dynamics in a nematic liquid crystal. <i>Physical Review Letters</i> , 1991, 66, 2472-2475.	7.8	130
21	Neurite Outgrowth on a DNA Crosslinked Hydrogel with Tunable Stiffnesses. <i>Annals of Biomedical Engineering</i> , 2008, 36, 1565-1579.	2.5	120
22	Wideband photon counting and homodyne detection. <i>Physical Review A</i> , 1985, 32, 311-323.	2.5	111
23	Robust self-replication of combinatorial information via crystal growth and scission. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 6405-6410.	7.1	107
24	A DNA-based molecular device switchable between three distinct mechanical states. <i>Applied Physics Letters</i> , 2002, 80, 883-885.	3.3	106
25	Performance of Cavity-Parametric Amplifiers, Employing Kerr Nonlinearities, in the Presence of Two-Photon Loss. <i>Journal of Lightwave Technology</i> , 2006, 24, 5054-5066.	4.6	106
26	Using DNA to construct and power a nanoactuator. <i>Physical Review E</i> , 2001, 63, 041913.	2.1	104
27	Dielectrophoretic Trapping of DNA Origami. <i>Small</i> , 2008, 4, 447-450.	10.0	88
28	Coarsening dynamics in uniaxial nematic liquid crystals. <i>Physical Review E</i> , 1993, 47, 3343-3356.	2.1	78
29	Multiscaffold DNA Origami Nanoparticle Waveguides. <i>Nano Letters</i> , 2013, 13, 3850-3856.	9.1	73
30	Excitonic AND Logic Gates on DNA Brick Nanobreadboards. <i>ACS Photonics</i> , 2015, 2, 398-404.	6.6	73
31	Monopole-antimonopole annihilation in a nematic liquid crystal. <i>Physical Review Letters</i> , 1991, 67, 1570-1573.	7.8	70
32	DNA-Controlled Excitonic Switches. <i>Nano Letters</i> , 2012, 12, 2117-2122.	9.1	69
33	Effect of Dynamic Stiffness of the Substrates on Neurite Outgrowth by Using a DNA-Crosslinked Hydrogel. <i>Tissue Engineering - Part A</i> , 2010, 16, 1873-1889.	3.1	68
34	Coherent Exciton Delocalization in a Two-State DNA-Templated Dye Aggregate System. <i>Journal of Physical Chemistry A</i> , 2017, 121, 6905-6916.	2.5	67
35	The relationship between fibroblast growth and the dynamic stiffnesses of a DNA crosslinked hydrogel. <i>Biomaterials</i> , 2010, 31, 1199-1212.	11.4	66
36	Large Davydov Splitting and Strong Fluorescence Suppression: An Investigation of Exciton Delocalization in DNA-Templated Holliday Junction Dye Aggregates. <i>Journal of Physical Chemistry A</i> , 2018, 122, 2086-2095.	2.5	57

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37	Simultaneous determination of Young's modulus, shear modulus, and Poisson's ratio of soft hydrogels. <i>Journal of Materials Research</i> , 2010, 25, 545-555.	2.6	51
38	DNA implementation of addition in which the input strands are separate from the operator strands. <i>BioSystems</i> , 1999, 52, 165-174.	2.0	50
39	PlanarXY-model dynamics in a nematic liquid crystal system. <i>Physical Review E</i> , 1994, 49, 4250-4257.	2.1	49
40	DNA-Templated Aggregates of Strongly Coupled Cyanine Dyes: Nonradiative Decay Governs Exciton Lifetimes. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 2386-2392.	4.6	49
41	Kinetics of DNA Strand Displacement Systems with Locked Nucleic Acids. <i>Journal of Physical Chemistry B</i> , 2017, 121, 2594-2602.	2.6	46
42	Availability: A Metric for Nucleic Acid Strand Displacement Systems. <i>ACS Synthetic Biology</i> , 2017, 6, 84-93.	3.8	45
43	Structure-factor scaling at the isotropic-to-nematic transition of cesium perfluoro-octanoate. <i>Physical Review Letters</i> , 1992, 68, 3583-3586.	7.8	43
44	Exciton Delocalization in Indolenine Squaraine Aggregates Templated by DNA Holliday Junction Scaffolds. <i>Journal of Physical Chemistry B</i> , 2020, 124, 9636-9647.	2.6	43
45	Microtubule Dynamics and the Positioning of Microtubule Organizing Centers. <i>Physical Review Letters</i> , 1998, 81, 485-488.	7.8	41
46	Thermodynamics and kinetics of DNA nanotube polymerization from single-filament measurements. <i>Chemical Science</i> , 2015, 6, 2252-2267.	7.4	39
47	Squeezed Light. <i>Scientific American</i> , 1988, 258, 50-56.	1.0	37
48	DNA topology influences molecular machine lifetime in human serum. <i>Nanoscale</i> , 2015, 7, 10382-10390.	5.6	37
49	Article for analog vector algebra computation. <i>BioSystems</i> , 1999, 52, 175-180.	2.0	35
50	An All-Optical Excitonic Switch Operated in the Liquid and Solid Phases. <i>ACS Nano</i> , 2019, 13, 2986-2994.	14.6	34
51	Coarsening dynamics in nematic liquid crystals. <i>Physica B: Condensed Matter</i> , 1992, 178, 56-72.	2.7	32
52	Prospects of employing superconducting stripline resonators for studying the dynamical Casimir effect experimentally. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2007, 370, 202-206.	2.1	30
53	High precision and high yield fabrication of dense nanoparticle arrays onto DNA origami at statistically independent binding sites. <i>Nanoscale</i> , 2014, 6, 13928-13938.	5.6	29
54	Passive linear nanoscale optical and molecular electronics device synthesis from nanoparticles. <i>Physical Review A</i> , 2010, 81, .	2.5	28

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55	Power-law scattering in fluids with a nonscalar order parameter. <i>Physical Review E</i> , 1993, 47, 2683-2688.	2.1	26
56	Rotaxane rings promote oblique packing and extended lifetimes in DNA-templated molecular dye aggregates. <i>Communications Chemistry</i> , 2021, 4, .	4.5	26
57	Excited-State Lifetimes of DNA-Templated Cyanine Dimer, Trimer, and Tetramer Aggregates: The Role of Exciton Delocalization, Dye Separation, and DNA Heterogeneity. <i>Journal of Physical Chemistry B</i> , 2021, 125, 10240-10259.	2.6	26
58	Use of Rigid Spherical Inclusions in Young's Moduli Determination: Application to DNA-Crosslinked Gels. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 571-579.	1.3	25
59	Delocalized Two-Exciton States in DNA Scaffolded Cyanine Dimers. <i>Journal of Physical Chemistry B</i> , 2020, 124, 8042-8049.	2.6	25
60	First-principles studies of substituent effects on squaraine dyes. <i>RSC Advances</i> , 2021, 11, 19029-19040.	3.6	21
61	Determining hydrodynamic forces in bursting bubbles using DNA nanotube mechanics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E6086-E6095.	7.1	20
62	Ab Initio Studies of Exciton Interactions of Cy5 Dyes. <i>Journal of Physical Chemistry A</i> , 2018, 122, 8989-8997.	2.5	19
63	Influence of Hydrophobicity on Excitonic Coupling in DNA-Templated Indolenine Squaraine Dye Aggregates. <i>Journal of Physical Chemistry C</i> , 2022, 126, 3475-3488.	3.1	19
64	Quantizing the damped harmonic oscillator. <i>American Journal of Physics</i> , 1986, 54, 1133-1139.	0.7	18
65	Substituent Effects on the Solubility and Electronic Properties of the Cyanine Dye Cy5: Density Functional and Time-Dependent Density Functional Theory Calculations. <i>Molecules</i> , 2021, 26, 524.	3.8	18
66	Twisting of DNA Origami from Intercalators. <i>Scientific Reports</i> , 2017, 7, 7382.	3.3	17
67	Dynamics of monopole annihilation by type-1/2 strings in a nematic liquid crystal. <i>Physical Review E</i> , 1996, 53, R25-R28.	2.1	16
68	Exciton Delocalization and Scaffold Stability in Bridged Nucleotide-Substituted, DNA Duplex-Templated Cyanine Aggregates. <i>Journal of Physical Chemistry B</i> , 2021, 125, 13670-13684.	2.6	16
69	Exciton Delocalization in a DNA-Templated Organic Semiconductor Dimer Assembly. <i>ACS Nano</i> , 2022, 16, 1301-1307.	14.6	15
70	Tuning between Quenching and Energy Transfer in DNA-Templated Heterodimer Aggregates. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 2782-2791.	4.6	15
71	Conservative model for the damped harmonic oscillator. <i>American Journal of Physics</i> , 1984, 52, 1099-1102.	0.7	13
72	Enhanced DNA sensing via catalytic aggregation of gold nanoparticles. <i>Biosensors and Bioelectronics</i> , 2013, 50, 382-386.	10.1	13

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73	Speeding up the self-assembly of a DNA nanodevice using a variety of polar solvents. <i>Nanoscale</i> , 2014, 6, 14153-14157.	5.6	13
74	Position-momentum local-realism violation of the Hardy type. <i>Physical Review A</i> , 1999, 60, 3444-3447.	2.5	12
75	Elongational-flow-induced scission of DNA nanotubes in laminar flow. <i>Physical Review E</i> , 2010, 82, 046307.	2.1	12
76	Oblique Packing and Tunable Excitonic Coupling in DNA-Templated Squaraine Rotaxane Dimer Aggregates. <i>ChemPhotoChem</i> , 2022, 6, .	3.0	12
77	Characterizing Mode Anharmonicity and Huang-Rhys Factors Using Models of Femtosecond Coherence Spectra. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 5413-5423.	4.6	12
78	Kinetics of DNA and RNA Hybridization in Serum and Serum-SDS. <i>IEEE Nanotechnology Magazine</i> , 2010, 9, 603-609.	2.0	11
79	Meta-DNA: synthetic biology via DNA nanostructures and hybridization reactions. <i>Journal of the Royal Society Interface</i> , 2012, 9, 1637-1653.	3.4	11
80	Mechanical Properties of DNA-Crosslinked Polyacrylamide Hydrogels with Increasing Crosslinker Density. <i>BioResearch Open Access</i> , 2012, 1, 256-259.	2.6	11
81	Synthesis of Substituted Cy5 Phosphoramidite Derivatives and Their Incorporation into Oligonucleotides Using Automated DNA Synthesis. <i>ACS Omega</i> , 2022, 7, 11002-11016.	3.5	11
82	Using the Pauli exclusion principle to exhibit local-realism violations in overlapping interferometers. <i>Physical Review A</i> , 1993, 47, 1704-1707.	2.5	10
83	Operation Kinetics of a DNA-Based Molecular Switch. <i>Journal of Nanoscience and Nanotechnology</i> , 2002, 2, 383-390.	0.9	10
84	A DNA Superstructure-based Replicator without Product Inhibition. <i>Natural Computing</i> , 2006, 5, 183-202.	3.0	10
85	DNA-mediated excitonic upconversion FRET switching. <i>New Journal of Physics</i> , 2015, 17, 115007.	2.9	10
86	Data-Driven and Multiscale Modeling of DNA-Templated Dye Aggregates. <i>Molecules</i> , 2022, 27, 3456.	3.8	6
87	Photocrosslinking Probes Proximity of Thymine Modifiers Tethering Excitonically Coupled Dye Aggregates to DNA Holliday Junction. <i>Molecules</i> , 2022, 27, 4006.	3.8	6
88	Bell's-inequality experiment employing four harmonic oscillators. <i>Physical Review A</i> , 1995, 51, 3437-3444.	2.5	5
89	Cavity resonant mode in a metal film perforated with two-dimensional triangular lattice hole arrays. <i>Optics Communications</i> , 2010, 283, 4090-4093.	2.1	5
90	Atomic force microscopy of DNA self-assembled nanostructures for device applications. , 2009, , .		0