

Bernard Yurke

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85
papers

8,805
citations

38
h-index

91
g-index

91
ext. papers

10,082
ext. citations

7
avg, IF

6.04
L-index

#	Paper	IF	Citations
85	A DNA-fuelled molecular machine made of DNA. <i>Nature</i> , 2000 , 406, 605-8	50.4	1820
84	SU(2) and SU(1,1) interferometers. <i>Physical Review A</i> , 1986 , 33, 4033-4054	2.6	850
83	Engineering entropy-driven reactions and networks catalyzed by DNA. <i>Science</i> , 2007 , 318, 1121-5	33.3	801
82	Measurement of the force-velocity relation for growing microtubules. <i>Science</i> , 1997 , 278, 856-60	33.3	406
81	On the biophysics and kinetics of toehold-mediated DNA strand displacement. <i>Nucleic Acids Research</i> , 2013 , 41, 10641-58	20.1	286
80	Quantum network theory. <i>Physical Review A</i> , 1984 , 29, 1419-1437	2.6	254
79	Principles and Applications of Nucleic Acid Strand Displacement Reactions. <i>Chemical Reviews</i> , 2019 , 119, 6326-6369	68.1	246
78	Chiral plasmonic DNA nanostructures with switchable circular dichroism. <i>Nature Communications</i> , 2013 , 4, 2948	17.4	236
77	Using DNA to Power Nanostructures. <i>Genetic Programming and Evolvable Machines</i> , 2003 , 4, 111-122	2	232
76	Use of cavities in squeezed-state generation. <i>Physical Review A</i> , 1984 , 29, 408-410	2.6	226
75	Mechanical properties of a reversible, DNA-crosslinked polyacrylamide hydrogel. <i>Journal of Biomechanical Engineering</i> , 2004 , 126, 104-10	2.1	192
74	Programmable periodicity of quantum dot arrays with DNA origami nanotubes. <i>Nano Letters</i> , 2010 , 10, 3367-72	11.5	186
73	Catalyzed relaxation of a metastable DNA fuel. <i>Journal of the American Chemical Society</i> , 2006 , 128, 12216-20	16.20	146
72	Controlled trapping and release of quantum dots in a DNA-switchable hydrogel. <i>Small</i> , 2007 , 3, 1688-93	11	144
71	Squeezed-coherent-state generation via four-wave mixers and detection via homodyne detectors. <i>Physical Review A</i> , 1985 , 32, 300-310	2.6	142
70	A magnetic manipulator for studying local rheology and micromechanical properties of biological systems. <i>Review of Scientific Instruments</i> , 1996 , 67, 818-827	1.7	141
69	Generation of superpositions of classically distinguishable quantum states from optical back-action evasion. <i>Physical Review A</i> , 1990 , 41, 5261-5264	2.6	141

68	Late-time coarsening dynamics in a nematic liquid crystal. <i>Physical Review Letters</i> , 1991 , 66, 2472-2475	7.4	121
67	Einstein-Podolsky-Rosen effects from independent particle sources. <i>Physical Review Letters</i> , 1992 , 68, 1251-1254	7.4	111
66	Bell's-inequality experiments using independent-particle sources. <i>Physical Review A</i> , 1992 , 46, 2229-2234	4.6	105
65	Neurite outgrowth on a DNA crosslinked hydrogel with tunable stiffnesses. <i>Annals of Biomedical Engineering</i> , 2008 , 36, 1565-79	4.7	103
64	A DNA-based molecular device switchable between three distinct mechanical states. <i>Applied Physics Letters</i> , 2002 , 80, 883-885	3.4	99
63	Wideband photon counting and homodyne detection. <i>Physical Review A</i> , 1985 , 32, 311-323	2.6	97
62	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	89
61	Using DNA to construct and power a nanoactuator. <i>Physical Review E</i> , 2001 , 63, 041913	2.4	89
60	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, 6405-10	11.5	88
59	Dielectrophoretic trapping of DNA origami. <i>Small</i> , 2008 , 4, 447-50	11	82
58	Coarsening dynamics in uniaxial nematic liquid crystals. <i>Physical Review E</i> , 1993 , 47, 3343-3356	2.4	75
57	Monopole-antimonopole annihilation in a nematic liquid crystal. <i>Physical Review Letters</i> , 1991 , 67, 1570-1573	4.7	66
56	Multiscaffold DNA origami nanoparticle waveguides. <i>Nano Letters</i> , 2013 , 13, 3850-6	11.5	61
55	The relationship between fibroblast growth and the dynamic stiffnesses of a DNA crosslinked hydrogel. <i>Biomaterials</i> , 2010 , 31, 1199-212	15.6	57
54	Effect of dynamic stiffness of the substrates on neurite outgrowth by using a DNA-crosslinked hydrogel. <i>Tissue Engineering - Part A</i> , 2010 , 16, 1873-89	3.9	56
53	DNA-controlled excitonic switches. <i>Nano Letters</i> , 2012 , 12, 2117-22	11.5	55
52	Excitonic AND Logic Gates on DNA Brick Nanobreadboards. <i>ACS Photonics</i> , 2015 , 2, 398-404	6.3	51
51	Planar XY-model dynamics in a nematic liquid crystal system. <i>Physical Review E</i> , 1994 , 49, 4250-4257	2.4	46

50	DNA implementation of addition in which the input strands are separate from the operator strands. <i>BioSystems</i> , 1999 , 52, 165-74	1.9	43
49	Structure-factor scaling at the isotropic-to-nematic transition of cesium perfluoro-octanoate. <i>Physical Review Letters</i> , 1992 , 68, 3583-3586	7.4	43
48	Coherent Exciton Delocalization in a Two-State DNA-Templated Dye Aggregate System. <i>Journal of Physical Chemistry A</i> , 2017 , 121, 6905-6916	2.8	39
47	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	2.5	36
46	Squeezed Light. <i>Scientific American</i> , 1988 , 258, 50-56	0.5	36
45	Microtubule Dynamics and the Positioning of Microtubule Organizing Centers. <i>Physical Review Letters</i> , 1998 , 81, 485-488	7.4	35
44	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	2.8	34
43	Kinetics of DNA Strand Displacement Systems with Locked Nucleic Acids. <i>Journal of Physical Chemistry B</i> , 2017 , 121, 2594-2602	3.4	32
42	DNA topology influences molecular machine lifetime in human serum. <i>Nanoscale</i> , 2015 , 7, 10382-90	7.7	29
41	Thermodynamics and kinetics of DNA nanotube polymerization from single-filament measurements. <i>Chemical Science</i> , 2015 , 6, 2252-2267	9.4	29
40	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, 202-208	2.3	29
39	Article for analog vector algebra computation. <i>BioSystems</i> , 1999 , 52, 175-80	1.9	29
38	DNA-Templated Aggregates of Strongly Coupled Cyanine Dyes: Nonradiative Decay Governs Exciton Lifetimes. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 2386-2392	6.4	28
37	Coarsening dynamics in nematic liquid crystals. <i>Physica B: Condensed Matter</i> , 1992 , 178, 56-72	2.8	28
36	Power-law scattering in fluids with a nonscalar order parameter. <i>Physical Review E</i> , 1993 , 47, 2683-2688	2.4	26
35	Availability: A Metric for Nucleic Acid Strand Displacement Systems. <i>ACS Synthetic Biology</i> , 2017 , 6, 84-93	3.7	25
34	High precision and high yield fabrication of dense nanoparticle arrays onto DNA origami at statistically independent binding sites. <i>Nanoscale</i> , 2014 , 6, 13928-38	7.7	25
33	Use of rigid spherical inclusions in Young's moduli determination: application to DNA-crosslinked gels. <i>Journal of Biomechanical Engineering</i> , 2005 , 127, 571-9	2.1	22

32	An All-Optical Excitonic Switch Operated in the Liquid and Solid Phases. <i>ACS Nano</i> , 2019 , 13, 2986-2994	16.7	19
31	Passive linear nanoscale optical and molecular electronics device synthesis from nanoparticles. <i>Physical Review A</i> , 2010 , 81,	2.6	17
30	Exciton Delocalization in Indolenine Squaraine Aggregates Templated by DNA Holliday Junction Scaffolds. <i>Journal of Physical Chemistry B</i> , 2020 , 124, 9636-9647	3.4	17
29	Dynamics of monopole annihilation by type-1/2 strings in a nematic liquid crystal. <i>Physical Review E</i> , 1996 , 53, R25-R28	2.4	16
28	Quantizing the damped harmonic oscillator. <i>American Journal of Physics</i> , 1986 , 54, 1133-1139	0.7	16
27	Ab Initio Studies of Exciton Interactions of Cy5 Dyes. <i>Journal of Physical Chemistry A</i> , 2018 , 122, 8989-8997	7.8	14
26	Enhanced DNA sensing via catalytic aggregation of gold nanoparticles. <i>Biosensors and Bioelectronics</i> , 2013 , 50, 382-6	11.8	13
25	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, E6086-95	11.5	12
24	Speeding up the self-assembly of a DNA nanodevice using a variety of polar solvents. <i>Nanoscale</i> , 2014 , 6, 14153-7	7.7	12
23	Twisting of DNA Origami from Intercalators. <i>Scientific Reports</i> , 2017 , 7, 7382	4.9	12
22	Position-momentum local-realism violation of the Hardy type. <i>Physical Review A</i> , 1999 , 60, 3444-3447	2.6	12
21	Elongational-flow-induced scission of DNA nanotubes in laminar flow. <i>Physical Review E</i> , 2010 , 82, 046307.4	7.4	11
20	Conservative model for the damped harmonic oscillator. <i>American Journal of Physics</i> , 1984 , 52, 1099-1102.	2.7	11
19	Rotaxane rings promote oblique packing and extended lifetimes in DNA-templated molecular dye aggregates.. <i>Communications Chemistry</i> , 2021 , 4,	6.3	11
18	Meta-DNA: synthetic biology via DNA nanostructures and hybridization reactions. <i>Journal of the Royal Society Interface</i> , 2012 , 9, 1637-53	4.1	10
17	A DNA Superstructure-based Replicator without Product Inhibition. <i>Natural Computing</i> , 2006 , 5, 183-202.	1.3	10
16	Using the Pauli exclusion principle to exhibit local-realism violations in overlapping interferometers. <i>Physical Review A</i> , 1993 , 47, 1704-1707	2.6	10
15	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,	4.8	10

14	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	3.4	10
13	Kinetics of DNA and RNA Hybridization in Serum and Serum-SDS. <i>IEEE Nanotechnology Magazine</i> , 2010 , 9, 603-609	2.6	9
12	Operation kinetics of a DNA-based molecular switch. <i>Journal of Nanoscience and Nanotechnology</i> , 2002 , 2, 383-90	1.3	9
11	Delocalized Two-Exciton States in DNA Scaffolded Cyanine Dimers. <i>Journal of Physical Chemistry B</i> , 2020 , 124, 8042-8049	3.4	9
10	First-principles studies of substituent effects on squaraine dyes.. <i>RSC Advances</i> , 2021 , 11, 19029-19040	3.7	9
9	Mechanical Properties of DNA-Crosslinked Polyacrylamide Hydrogels with Increasing Crosslinker Density. <i>BioResearch Open Access</i> , 2012 , 1, 256-9	2.4	8
8	DNA-mediated excitonic upconversion FRET switching. <i>New Journal of Physics</i> , 2015 , 17, 115007	2.9	7
7	Influence of Hydrophobicity on Excitonic Coupling in DNA-Templated Indolenine Squaraine Dye Aggregates.. <i>Journal of Physical Chemistry C</i> , 2022 , 126, 3475-3488	3.8	6
6	Cavity resonant mode in a metal film perforated with two-dimensional triangular lattice hole arrays. <i>Optics Communications</i> , 2010 , 283, 4090-4093	2	5
5	Bell's-inequality experiment employing four harmonic oscillators. <i>Physical Review A</i> , 1995 , 51, 3437-3444	2.6	5
4	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	3.4	5
3	Synthesis of Substituted Cy5 Phosphoramidite Derivatives and Their Incorporation into Oligonucleotides Using Automated DNA Synthesis.. <i>ACS Omega</i> , 2022 , 7, 11002-11016	3.9	3
2	Tuning between Quenching and Energy Transfer in DNA-Templated Heterodimer Aggregates.. <i>Journal of Physical Chemistry Letters</i> , 2022 , 2782-2791	6.4	3
1	Data-Driven and Multiscale Modeling of DNA-Templated Dye Aggregates. <i>Molecules</i> , 2022 , 27, 3456	4.8	3