Nicholas A Melosh

List of Publications by Year
in descending order

99 papers	17,562 citations	61984 43 h-index	38395 95 g-index
104 all docs	104 docs citations	104 times ranked	19970 citing authors

#	Article	IF	Citations
1	Agâ€"Diamond Coreâ€"Shell Nanostructures Incorporated with Silicon-Vacancy Centers. ACS Materials Au, 2022, 2, 85-93.	6.0	3
2	Narrow-linewidth tin-vacancy centers in diamond waveguides. , 2021, , .		0
3	Quantum Photonic Interface for Tin-Vacancy Centers in Diamond. Physical Review X, 2021, 11, .	8.9	34
4	A nanophotonic interface for tin-vacancy spin qubits in diamond. , 2021, , .		1
5	Mechanical Stimulation after Centrifugeâ€Free Nanoâ€Electroporative Transfection Is Efficient and Maintains Longâ€Term T Cell Functionalities. Small, 2021, 17, e2103198.	10.0	17
6	Synergistic enhancement of electrocatalytic CO2 reduction to C2 oxygenates at nitrogen-doped nanodiamonds/Cu interface. Nature Nanotechnology, 2020, 15, 131-137.	31.5	169
7	Narrow-Linewidth Tin-Vacancy Centers in a Diamond Waveguide. ACS Photonics, 2020, 7, 2356-2361.	6.6	39
8	CHIME: CMOS-Hosted in vivo Microelectrodes for Massively Scalable Neuronal Recordings. Frontiers in Neuroscience, 2020, 14, 834.	2.8	15
9	Generation of Tin-Vacancy Centers in Diamond via Shallow Ion Implantation and Subsequent Diamond Overgrowth. Nano Letters, 2020, 20, 1614-1619.	9.1	40
10	Massively parallel microwire arrays integrated with CMOS chips for neural recording. Science Advances, 2020, 6, eaay2789.	10.3	115
11	Nanodiamond Integration with Photonic Devices. Laser and Photonics Reviews, 2019, 13, 1800316.	8.7	50
12	Surface Photovoltage-Induced Ultralow Work Function Material for Thermionic Energy Converters. ACS Energy Letters, 2019, 4, 2436-2443.	17.4	23
13	Impact of Rigidity on Molecular Self-Assembly. Langmuir, 2019, 35, 16062-16069.	3.5	16
14	Transfection with Nanostructure Electroâ€Injection is Minimally Perturbative. Advanced Therapeutics, 2019, 2, 1900133.	3.2	30
15	Nanostructured Materials for Intracellular Cargo Delivery. Accounts of Chemical Research, 2019, 52, 2462-2471.	15.6	73
16	Sparking to life. Nature Materials, 2019, 18, 1156-1157.	27.5	1
17	Sterically controlled mechanochemistry under hydrostatic pressure. Nature, 2018, 554, 505-510.	27.8	71
18	Strongly Cavity-Enhanced Spontaneous Emission from Silicon-Vacancy Centers in Diamond. Nano Letters, 2018, 18, 1360-1365.	9.1	112

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19	Functionalisation of Detonation Nanodiamond for Monodispersed, Soluble DNA-Nanodiamond Conjugates Using Mixed Silane Bead-Assisted Sonication Disintegration. Scientific Reports, 2018, 8, 728.	3.3	24
20	Monochromatic Photocathodes from Graphene-Stabilized Diamondoids. Nano Letters, 2018, 18, 1099-1103.	9.1	8
21	Electronic and Ionic Materials for Neurointerfaces. Advanced Functional Materials, 2018, 28, 1704335.	14.9	63
22	Roadmap on semiconductorâ€“cell biointerfaces. Physical Biology, 2018, 15, 031002.	1.8	45
23	Universal intracellular biomolecule delivery with precise dosage control. Science Advances, 2018, 4, eaat8131.	10.3	95
24	Experimental measurement of the diamond nucleation landscape reveals classical and nonclassical features. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8284-8289.	7.1	37
25	Cavity-Enhanced Raman Emission from a Single Color Center in a Solid. Physical Review Letters, 2018, 121, 083601.	7.8	41
26	An Ultrastrong Double-Layer Nanodiamond Interface for Stable Lithium Metal Anodes. Joule, 2018, 2, 1595-1609.	24.0	155
27	Direct Intracellular Delivery of Cellâ€Impermeable Probes of Protein Glycosylation by Using Nanostraws. ChemBioChem, 2017, 18, 623-628.	2.6	29
28	Nondestructive nanostraw intracellular sampling for longitudinal cell monitoring. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E1866-E1874.	7.1	124
29	Temperature-dependent optical properties of titanium nitride. Applied Physics Letters, 2017, 110, .	3.3	83
30	Vertical-Substrate MPCVD Epitaxial Nanodiamond Growth. Nano Letters, 2017, 17, 1489-1495.	9.1	68
31	Back-gated graphene anode for more efficient thermionic energy converters. Nano Energy, 2017, 32, 67-72.	16.0	57
32	Hybrid metalâ€“organic chalcogenide nanowires with electrically conductive inorganic core through diamondoid-directed assembly. Nature Materials, 2017, 16, 349-355.	27.5	79
33	Self-Assembly of Mesoscale Artificial Clathrin Mimics. ACS Nano, 2017, 11, 9889-9897.	14.6	7
34	Quantifying and Elucidating Thermally Enhanced Minority Carrier Diffusion Length Using Radius-Controlled Rutile Nanowires. Nano Letters, 2017, 17, 5264-5272.	9.1	18
35	Electron-emission materials: Advances, applications, and models. MRS Bulletin, 2017, 42, 488-492.	3.5	41
36	Cellular Differentiation of Human Monocytes Is Regulated by Time-Dependent Interleukin-4 Signaling and the Transcriptional Regulator NCOR2. Immunity, 2017, 47, 1051-1066.e12.	14.3	133

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37	Complete coherent control of silicon vacancies in diamond nanopillars containing single defect centers. Optica, 2017, 4, 1317.	9.3	33
38	Fabrication of Sealed Nanostraw Microdevices for Oral Drug Delivery. ACS Nano, 2016, 10, 5873-5881.	14.6	58
39	Temporally resolved direct delivery of second messengers into cells using nanostraws. Lab on A Chip, 2016, 16, 2434-2439.	6.0	24
40	Significantly enhanced photocurrent for water oxidation in monolithic Mo:BiVO₄/SnO₂/Si by thermally increasing the minority carrier diffusion length. Energy and Environmental Science, 2016, 9, 2044-2052.	30.8	105
41	Hybrid Group IV Nanophotonic Structures Incorporating Diamond Silicon-Vacancy Color Centers. Nano Letters, 2016, 16, 212-217.	9.1	46
42	Ultralow effective work function surfaces using diamondoid monolayers. Nature Nanotechnology, 2016, 11, 267-272.	31.5	42
43	Nanoparticles make salty circuits. Nature Nanotechnology, 2016, 11, 579-580.	31.5	11
44	Nanostraws: A Nanofabricated Platform for Delivery of Cell-Impermeable, Synthetic Biomolecules. Biophysical Journal, 2015, 108, 149a.	0.5	1
45	Determining the Time Window for Dynamic Nanowire Cell Penetration Processes. ACS Nano, 2015, 9, 11667-11677.	14.6	66
46	Thermally-enhanced minority carrier collection in hematite during photoelectrochemical water and sulfite oxidation. Journal of Materials Chemistry A, 2015, 3, 10801-10810.	10.3	29
47	Fabrication of sub-cell size â€œspikyâ€•nanoparticles and their interfaces with biological cells. Journal of Materials Chemistry B, 2015, 3, 5155-5160.	5.8	19
48	Bioorthogonal Calcium Modulation by Direct Intracellular Access using Nanostraws. Biophysical Journal, 2015, 108, 568a.	0.5	0
49	Nanotechnology and neurophysiology. Current Opinion in Neurobiology, 2015, 32, 132-140.	4.2	62
50	Engineering Ultra-Low Work Function of Graphene. Nano Letters, 2015, 15, 6475-6480.	9.1	75
51	Membrane indentation triggers clathrin lattice reorganization and fluidization. Soft Matter, 2015, 11, 439-448.	2.7	22
52	Plasma Membrane and Actin Cytoskeleton as Synergistic Barriers to Nanowire Cell Penetration. Langmuir, 2014, 30, 12362-12367.	3.5	40
53	Microfabricated Thermally Isolated Low Work-Function Emitter. Journal of Microelectromechanical Systems, 2014, 23, 1182-1187.	2.5	83
54	Penetration of Cell Membranes and Synthetic Lipid Bilayers by Nanoprobes. Biophysical Journal, 2014, 107, 2091-2100.	0.5	47

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55	Quantification of nanowire penetration into living cells. Nature Communications, 2014, 5, 3613.	12.8	129
56	Rheology and simulation of 2-dimensional clathrin protein network assembly. Soft Matter, 2014, 10, 6219.	2.7	5
57	Microbead-separated thermionic energy converter with enhanced emission current. Physical Chemistry Chemical Physics, 2013, 15, 14442.	2.8	35
58	High-Bandwidth AFM Probes for Imaging in Air and Fluid. Journal of Microelectromechanical Systems, 2013, 22, 603-612.	2.5	6
59	A semiconductor/mixed ion and electron conductor heterojunction for elevated-temperature water splitting. Physical Chemistry Chemical Physics, 2013, 15, 15459.	2.8	18
60	Nanostrawâ€“Electroporation System for Highly Efficient Intracellular Delivery and Transfection. ACS Nano, 2013, 7, 4351-4358.	14.6	257
61	Mechanical Model of Vertical Nanowire Cell Penetration. Nano Letters, 2013, 13, 6002-6008.	9.1	161
62	Photocathode device using diamondoid and cesium bromide films. Applied Physics Letters, 2012, 101, 241605.	3.3	13
63	Direct Penetration of Cell-Penetrating Peptides Across Lipid Bilayers. Biophysical Journal, 2012, 102, 487a.	0.5	1
64	Nanostraws for Direct Fluidic Intracellular Access. Nano Letters, 2012, 12, 3881-3886.	9.1	201
65	Optimal emitter-collector gap for thermionic energy converters. Applied Physics Letters, 2012, 100, .	3.3	118
66	Mesoporous Thin-Film on Highly-Sensitive Resonant Chemical Sensor for Relative Humidity and CO₂ Detection. Analytical Chemistry, 2012, 84, 3063-3066.	6.5	58
67	Novel Nanoscale Patch-Clamp Arrays for Probing Neuronal Electrical Activities. Biophysical Journal, 2012, 102, 299a.	0.5	0
68	Nanostraws for Direct Fluidic Intracellular Access. Biophysical Journal, 2012, 102, 583a.	0.5	1
69	Mechanical Model of Cell Membrane Penetration by Vertical Nanowires. Biophysical Journal, 2012, 102, 205a.	0.5	0
70	Shape Matters: Intravital Microscopy Reveals Surprising Geometrical Dependence for Nanoparticles in Tumor Models of Extravasation. Nano Letters, 2012, 12, 3369-3377.	9.1	189
71	Molecular Structure Influences the Stability of Membrane Penetrating Biointerfaces.. Nano Letters, 2011, 11, 2066-2070.	9.1	28
72	Plasmonic Energy Collection through Hot Carrier Extraction. Nano Letters, 2011, 11, 5426-5430.	9.1	250

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73	Rapid spatial and temporal controlled signal delivery over large cell culture areas. Lab on A Chip, 2011, 11, 3057.	6.0	53
74	Nanoscale patterning controls inorganicâ€"membrane interface structure. Nanoscale, 2011, 3, 391-400.	5.6	18
75	Dynamic actuation using nano-bio interfaces. Materials Today, 2010, 13, 14-22.	14.2	34
76	Detection by failure. Nature Chemistry, 2010, 2, 1006-1007.	13.6	1
77	Photon-enhanced thermionic emission for solar concentrator systems. Nature Materials, 2010, 9, 762-767.	27.5	442
78	Fusion of biomimetic stealth probes into lipid bilayer cores. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 5815-5820.	7.1	91
79	An Electrostatic Model for DNA Surface Hybridization. Biophysical Journal, 2010, 98, 2954-2963.	0.5	93
80	Continuum model of mechanical interactions between biological cells and artificial nanostructures. Biointerphases, 2010, 5, 37-44.	1.6	20
81	Effects of tip-induced material reorganization in dynamic force spectroscopy. Physical Review E, 2010, 82, 031911.	2.1	1
82	Determining orientational structure of diamondoid thiols attached to silver using near-edge X-ray absorption fine structure spectroscopy. Journal of Electron Spectroscopy and Related Phenomena, 2009, 172, 69-77.	1.7	17
83	Identification and Passivation of Defects in Self-Assembled Monolayers. Langmuir, 2009, 25, 2585-2587.	3.5	23
84	Origin of the Monochromatic Photoemission Peak in Diamondoid Monolayers. Nano Letters, 2009, 9, 57-61.	9.1	58
85	Directed Hybridization and Melting of DNA Linkers using Counterion-Screened Electric Fields. Nano Letters, 2009, 9, 3521-3526.	9.1	61
86	Nanoporeâ€Spanning Lipid Bilayers for Controlled Chemical Release. Advanced Materials, 2008, 20, 4423-4427.	21.0	22
87	Efficient optical coupling into metal-insulator-metal plasmon modes with subwavelength diffraction gratings. Applied Physics Letters, 2008, 92, 113109.	3.3	33
88	A Nonvolatile Plasmonic Switch Employing Photochromic Molecules. Nano Letters, 2008, 8, 1506-1510.	9.1	220
89	Formation and Characterization of Fluid Lipid Bilayers on Alumina. Langmuir, 2008, 24, 12734-12737.	3.5	46
90	Electronically Activated Actin Protein Polymerization and Alignment. Journal of the American Chemical Society, 2008, 130, 7908-7915.	13.7	17

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91	Interfacial effects in thin films of polymeric semiconductors. Journal of Vacuum Science & Technology B, 2008, 26, 1454.	1.3	6
92	Dynamic control of biomolecular activity using electrical interfaces. Soft Matter, 2007, 3, 267-274.	2.7	13
93	Lipid Bilayer Deposition and Patterning via Air Bubble Collapse. Langmuir, 2007, 23, 9369-9377.	3.5	36
94	Probing Molecular Junctions Using Surface Plasmon Resonance Spectroscopy. Nano Letters, 2006, 6, 2797-2803.	9.1	22
95	Soft Deposition of Large-Area Metal Contacts for Molecular Electronics. Advanced Materials, 2006, 18, 1499-1504.	21.0	61
96	Silicon chip-based patch-clamp electrodes integrated with PDMS microfluidics. Biosensors and Bioelectronics, 2004, 20, 509-517.	10.1	163
97	Mesostructured Silica/Block Copolymer Composites as Hosts for Optically Limiting Tetraphenylporphyrin Dye Molecules. Journal of Physical Chemistry B, 2004, 108, 11909-11914.	2.6	29
98	Ultrahigh-Density Nanowire Lattices and Circuits. Science, 2003, 300, 112-115.	12.6	846
99	Triblock Copolymer Syntheses of Mesoporous Silica with Periodic 50 to 300 Angstrom Pores. Science, 1998, 279, 548-552.	12.6	10,937