Don N Futaba

List of Publications by Year
in descending order

127 papers	14,828 citations	66315 42 h-index	18115 120 g-index
128 all docs	128 docs citations	128 times ranked	16049 citing authors

#	Article	IF	Citations
1	A stretchable carbon nanotube strain sensor for human-motion detection. Nature Nanotechnology, 2011, 6, 296-301.	15.6	2,836
2	Water-Assisted Highly Efficient Synthesis of Impurity-Free Single-Walled Carbon Nanotubes. Science, 2004, 306, 1362-1364.	6.0	2,476
3	Shape-engineerable and highly densely packed single-walled carbon nanotubes and their application as super-capacitor electrodes. Nature Materials, 2006, 5, 987-994.	13.3	1,811
4	A black body absorber from vertically aligned single-walled carbon nanotubes. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6044-6047.	3.3	647
5	Extracting the Full Potential of Singleâ€Walled Carbon Nanotubes as Durable Supercapacitor Electrodes Operable at 4 V with High Power and Energy Density. Advanced Materials, 2010, 22, E235-41.	11.1	582
6	One hundred fold increase in current carrying capacity in a carbon nanotubeâ€"copper composite. Nature Communications, 2013, 4, 2202.	5.8	422
7	Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. ACS Nano, 2018, 12, 11756-11784.	7.3	388
8	Size-selective growth of double-walled carbon nanotube forests from engineered iron catalysts. Nature Nanotechnology, 2006, 1, 131-136.	15.6	342
9	Carbon Nanotubes with Temperature-Invariant Viscoelasticity from â€"196Â° to 1000Â°C. Science, 2010, 330, 1364-1368.	6.0	335
10	Kinetics of Water-Assisted Single-Walled Carbon Nanotube Synthesis Revealed by a Time-Evolution Analysis. Physical Review Letters, 2005, 95, 056104.	2.9	309
11	Integrated three-dimensional microelectromechanical devices from processable carbon nanotube wafers. Nature Nanotechnology, 2008, 3, 289-294.	15.6	266
12	High-Power Supercapacitor Electrodes from Single-Walled Carbon Nanohorn/Nanotube Composite. ACS Nano, 2011, 5, 811-819.	7.3	251
13	84% Catalyst Activity of Water-Assisted Growth of Single Walled Carbon Nanotube Forest Characterization by a Statistical and Macroscopic Approach. Journal of Physical Chemistry B, 2006, 110, 8035-8038.	1.2	235
14	Highly Conductive Sheets from Millimeterâ€Long Singleâ€Walled Carbon Nanotubes and Ionic Liquids: Application to Fastâ€Moving, Lowâ€Voltage Electromechanical Actuators Operable in Air. Advanced Materials, 2009, 21, 1582-1585.	11.1	230
15	Revealing the Secret of Water-Assisted Carbon Nanotube Synthesis by Microscopic Observation of the Interaction of Water on the Catalysts. Nano Letters, 2008, 8, 4288-4292.	4.5	195
16	Synthesis of Single- and Double-Walled Carbon Nanotube Forests on Conducting Metal Foils. Journal of the American Chemical Society, 2006, 128, 13338-13339.	6.6	179
17	Alignment Control of Carbon Nanotube Forest from Random to Nearly Perfectly Aligned by Utilizing the Crowding Effect. ACS Nano, 2012, 6, 5837-5844.	7.3	151
18	Compact and Light Supercapacitor Electrodes from a Surfaceâ€Only Solid by Opened Carbon Nanotubes with 2â€‰200 m² g^{âˆ'1} Surface Area. Advanced Functional Materials, 2010, 20, 422-428.	7.8	145

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19	Exploring Advantages of Diverse Carbon Nanotube Forests with Tailored Structures Synthesized by Supergrowth from Engineered Catalysts. ACS Nano, 2009, 3, 108-114.	7.3	144
20	Improved and Large Area Single-Walled Carbon Nanotube Forest Growth by Controlling the Gas Flow Direction. ACS Nano, 2009, 3, 4164-4170.	7.3	130
21	Carbon nanotube-copper exhibiting metal-like thermal conductivity and silicon-like thermal expansion for efficient cooling of electronics. Nanoscale, 2014, 6, 2669-2674.	2.8	128
22	Ion Diffusion and Electrochemical Capacitance in Aligned and Packed Single-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2010, 132, 18017-18019.	6.6	122
23	Role of Subsurface Diffusion and Ostwald Ripening in Catalyst Formation for Single-Walled Carbon Nanotube Forest Growth. Journal of the American Chemical Society, 2012, 134, 2148-2153.	6.6	113
24	Electrochemical doping of pure single-walled carbon nanotubes used as supercapacitor electrodes. Carbon, 2008, 46, 1999-2001.	5.4	108
25	General Rules Governing the Highly Efficient Growth of Carbon Nanotubes. Advanced Materials, 2009, 21, 4811-4815.	11.1	91
26	Length-Dependent Plasmon Resonance in Single-Walled Carbon Nanotubes. ACS Nano, 2014, 8, 9897-9904.	7.3	81
27	Existence and Kinetics of Graphitic Carbonaceous Impurities in Carbon Nanotube Forests to Assess the Absolute Purity. Nano Letters, 2009, 9, 769-773.	4.5	70
28	Controlling exfoliation in order to minimize damage during dispersion of long SWCNTs for advanced composites. Scientific Reports, 2014, 4, 3907.	1.6	68
29	Lithographically Integrated Microsupercapacitors for Compact, High Performance, and Designable Energy Circuits. Advanced Energy Materials, 2015, 5, 1500741.	10.2	67
30	Nano-scale, planar and multi-tiered current pathways from a carbon nanotubeâ€“copper composite with high conductivity, ampacity and stability. Nanoscale, 2016, 8, 3888-3894.	2.8	65
31	Macroscopic Wall Number Analysis of Single-Walled, Double-Walled, and Few-Walled Carbon Nanotubes by X-ray Diffraction. Journal of the American Chemical Society, 2011, 133, 5716-5719.	6.6	62
32	Diameter control of single-walled carbon nanotube forests from 1.3â€“3.0â€…nm by arc plasma deposition. Scientific Reports, 2014, 4, 3804.	1.6	60
33	Thermal Diffusivity of Single-Walled Carbon Nanotube Forest Measured by Laser Flash Method. Japanese Journal of Applied Physics, 2009, 48, 05EC07.	0.8	59
34	Interplay of wall number and diameter on the electrical conductivity of carbon nanotube thin films. Carbon, 2014, 67, 318-325.	5.4	56
35	Robust and Soft Elastomeric Electronics Tolerant to Our Daily Lives. Nano Letters, 2015, 15, 5716-5723.	4.5	56
36	Influence of matching solubility parameter of polymer matrix and CNT on electrical conductivity of CNT/rubber composite. Scientific Reports, 2014, 4, 7232.	1.6	53

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37	Influence of lengths of millimeter-scale single-walled carbon nanotube on electrical and mechanical properties of buckypaper. Nanoscale Research Letters, 2013, 8, 546.	3.1	52
38	A dispersion strategy: dendritic carbon nanotube network dispersion for advanced composites. Chemical Science, 2013, 4, 727-733.	3.7	52
39	Diameter and Density Control of Singleâ€Walled Carbon Nanotube Forests by Modulating Ostwald Ripening through Decoupling the Catalyst Formation and Growth Processes. Small, 2013, 9, 3584-3592.	5.2	52
40	A sweet spot for highly efficient growth of vertically aligned single-walled carbon nanotube forests enabling their unique structures and properties. Nanoscale, 2016, 8, 162-171.	2.8	52
41	Water-Assisted Highly Efficient Synthesis of Single-Walled Carbon Nanotubes Forests from Colloidal Nanoparticle Catalysts. Journal of Physical Chemistry C, 2007, 111, 17961-17965.	1.5	47
42	Gas Dwell Time Control for Rapid and Long Lifetime Growth of Single-Walled Carbon Nanotube Forests. Nano Letters, 2011, 11, 3617-3623.	4.5	47
43	Growth control of single-walled, double-walled, and triple-walled carbon nanotube forests by a priori electrical resistance measurement of catalyst films. Carbon, 2011, 49, 4368-4375.	5.4	46
44	Tailoring Temperature Invariant Viscoelasticity of Carbon Nanotube Material. Nano Letters, 2011, 11, 3279-3284.	4.5	41
45	Diagnostics and growth control of single-walled carbon nanotube forests using a telecentric optical system for in situ height monitoring. Applied Physics Letters, 2008, 93, 143115.	1.5	39
46	Classification of Commercialized Carbon Nanotubes into Three General Categories as a Guide for Applications. ACS Applied Nano Materials, 2019, 2, 4043-4047.	2.4	39
47	Dual Porosity Single-Walled Carbon Nanotube Material. Nano Letters, 2009, 9, 3302-3307.	4.5	38
48	Carbon Nanotubes with Temperatureâ€Invariant Creep and Creepâ€Recovery from â^'190 to 970 Â°C. Advanced Materials, 2011, 23, 3686-3691.	11.1	38
49	Absence of an Ideal Single-Walled Carbon Nanotube Forest Structure for Thermal and Electrical Conductivities. ACS Nano, 2013, 7, 10218-10224.	7.3	36
50	A Background Level of Oxygen-Containing Aromatics for Synthetic Control of Carbon Nanotube Structure. Journal of the American Chemical Society, 2009, 131, 15992-15993.	6.6	35
51	Unexpectedly High Yield Carbon Nanotube Synthesis from Low-Activity Carbon Feedstocks at High Concentrations. ACS Nano, 2013, 7, 3150-3157.	7.3	35
52	Impact of cell-voltage on energy and power performance of supercapacitors with single-walled carbon nanotube electrodes. Electrochemistry Communications, 2010, 12, 1678-1681.	2.3	34
53	The relationship between the growth rate and the lifetime in carbon nanotube synthesis. Nanoscale, 2015, 7, 8873-8878.	2.8	34
54	Epoxy composite sheets with a large interfacial area from a high surface area-supplying single-walled carbon nanotube scaffold filler. Carbon, 2011, 49, 5090-5098.	5.4	33

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55	Mechanics and actuation properties of bucky gel-based electroactive polymers. Sensors and Actuators B: Chemical, 2011, 156, 949-953.	4.0	33
56	Cross-linking super-growth carbon nanotubes to boost the performance of bucky gel actuators. Carbon, 2011, 49, 2253-2257.	5.4	32
57	Semiconductor nanochannels in metallic carbon nanotubes by thermomechanical chirality alteration. Science, 2021, 374, 1616-1620.	6.0	32
58	A Fundamental Limitation of Small Diameter Single-Walled Carbon Nanotube Synthesisâ€"A Scaling Rule of the Carbon Nanotube Yield with Catalyst Volume. Materials, 2013, 6, 2633-2641.	1.3	24
59	Highly pure, millimeter-tall, sub-2-nanometer diameter single-walled carbon nanotube forests. Carbon, 2016, 107, 433-439.	5.4	24
60	Mechanical Properties of Beams from Self-Assembled Closely Packed and Aligned Single-Walled Carbon Nanotubes. Physical Review Letters, 2009, 102, 175505.	2.9	23
61	Hierarchical Three-Dimensional Layer-by-Layer Assembly of Carbon Nanotube Wafers for Integrated Nanoelectronic Devices. Nano Letters, 2012, 12, 4540-4545.	4.5	23
62	Calculations of Scanning Tunneling Microscopic Images of Benzene on Pt(111) and Pd(111), and Thiophene on Pd(111). Japanese Journal of Applied Physics, 1999, 38, 3809-3812.	0.8	22
63	Outer-specific surface area as a gauge for absolute purity of single-walled carbon nanotube forests. Carbon, 2010, 48, 4542-4546.	5.4	21
64	Mutual Exclusivity in the Synthesis of High Crystallinity and High Yield Single-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2012, 134, 9219-9224.	6.6	21
65	Predictions of scanning tunneling microscope images of furan and pyrrole on Pd(111). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 1295-1298.	0.9	20
66	Catalysts for the growth of carbon nanotube â€œforestsâ€•and superaligned arrays. MRS Bulletin, 2017, 42, 802-808.	1.7	20
67	Supercapacitors using Pure Single-walled Carbon Nanotubes. Carbon Letters, 2009, 10, 90-93.	3.3	20
68	Carbon nanotube loop arrays for low-operational power, high uniformity field emission with long-term stability. Carbon, 2012, 50, 2796-2803.	5.4	19
69	Green, Scalable, Binderless Fabrication of a Single-Walled Carbon Nanotube Nonwoven Fabric Based on an Ancient Japanese Paper Process. ACS Applied Materials & Interfaces, 2013, 5, 12602-12608.	4.0	19
70	Torsion-Sensing Material from Aligned Carbon Nanotubes Wound onto a Rod Demonstrating Wide Dynamic Range. ACS Nano, 2013, 7, 3177-3182.	7.3	18
71	Elucidating the effect of heating induced structural change on electrical and thermal property improvement of single wall carbon nanotube. Carbon, 2015, 87, 239-245.	5.4	18
72	Unexpected Efficient Synthesis of Millimeter-Scale Single-Wall Carbon Nanotube Forests Using a Sputtered MgO Catalyst Underlayer Enabled by a Simple Treatment Process. Journal of the American Chemical Society, 2016, 138, 16608-16611.	6.6	18

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73	Efficiency of C60 incorporation in and release from single-wall carbon nanotubes depending on their diameters. Carbon, 2007, 45, 722-726.	5.4	17
74	Direct Wall Number Control of Carbon Nanotube Forests from Engineered Iron Catalysts. Journal of Nanoscience and Nanotechnology, 2013, 13, 2745-2751.	0.9	17
75	Through-Silicon-Via Interposers with Cu-Level Electrical Conductivity and Si-Level Thermal Expansion Based on Carbon Nanotube-Cu Composites for Microelectronic Packaging Applications. ACS Applied Nano Materials, 2021, 4, 869-876.	2.4	16
76	A unique facility for surface microscopy. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 96, 215-220.	1.7	15
77	A general strategy for optimizing composite properties by evaluating the interfacial surface area of dispersed carbon nanotubes by fractal dimension. Carbon, 2019, 154, 457-465.	5.4	15
78	The Infinite Possible Growth Ambients that Support Single-Wall Carbon Nanotube Forest Growth. Scientific Reports, 2013, 3, 3334.	1.6	14
79	Quantitative assessment of the effect of purity on the properties of single wall carbon nanotubes. Nanoscale, 2015, 7, 5126-5133.	2.8	14
80	Low turn-on and uniform field emission from structurally engineered carbon nanotube arrays through growth on metal wire mesh substrates. Materials Research Express, 2017, 4, 105041.	0.8	14
81	A phenomenological model for selective growth of semiconducting single-walled carbon nanotubes based on catalyst deactivation. Nanoscale, 2016, 8, 1015-1023.	2.8	13
82	Synthesis of sub-millimeter tall SWNT forests on a catalyst underlayer of MgO single crystal. MRS Advances, 2017, 2, 1-8.	0.5	13
83	Calculations of scanning tunneling microscope images of xylene on Rh(111). Surface Science, 2000, 448, L175-L178.	0.8	12
84	Designing Neat and Composite Carbon Nanotube Materials by Porosimetric Characterization. Nanoscale Research Letters, 2017, 12, 616.	3.1	12
85	One millimeter per minute growth rates for single wall carbon nanotube forests enabled by porous metal substrates. RSC Advances, 2018, 8, 7810-7817.	1.7	12
86	Controlling the structure of arborescent carbon nanotube networks for advanced rubber composites. Composites Science and Technology, 2018, 163, 10-17.	3.8	11
87	The Application of Gas Dwell Time Control for Rapid Single Wall Carbon Nanotube Forest Synthesis to Acetylene Feedstock. Nanomaterials, 2015, 5, 1200-1210.	1.9	10
88	The limitation of electrode shape on the operational speed of a carbon nanotube based micro-supercapacitor. Sustainable Energy and Fuels, 2017, 1, 1282-1286.	2.5	10
89	Field emission from laterally aligned carbon nanotube flower arrays for low turn-on field emission. APL Materials, 2013, 1, .	2.2	9
90	A New, General Strategy for Fabricating Highly Concentrated and Viscoplastic Suspensions Based on a Structural Approach To Modulate Interparticle Interaction. Journal of the American Chemical Society, 2018, 140, 1098-1104.	6.6	9

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91	Experimental and theoretical STM imaging of xylene isomers on Pd(111). Physical Review B, 2002, 65, .	1.1	7
92	Benchmarking bucky gel actuators: Chemically modified commercial carbon nanotubes versus super-growth carbon nanotubes. Physica Status Solidi (B): Basic Research, 2010, 247, 3055-3058.	0.7	7
93	Current treatment of bulk single walled carbon nanotubes to heal defects without structural change for increased electrical and thermal conductivities. Nanoscale, 2015, 7, 8707-8714.	2.8	7
94	Scanning tunneling microscopy study of the molecular arrangement ofmeta- andpara-xylene on Pd(111). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1993-1995.	0.9	6
95	A mini-microplasma-based synthesis reactor for growing highly crystalline carbon nanotubes. Carbon, 2021, 173, 448-453.	5.4	6
96	Characteristic intra- and interunit interactions of Kr atoms adsorbed on theSi(111)âˆ'7Ã—7surface. Physical Review B, 2003, 68, .	1.1	5
97	High Yield Single-Walled Carbon Nanotube Synthesis Through Multilayer Porous Mesh Substrates. E-Journal of Surface Science and Nanotechnology, 2018, 16, 279-282.	0.1	5
98	Role of Hydrogen in Catalyst Activation for Plasma-Based Synthesis of Carbon Nanotubes. ACS Omega, 2021, 6, 18763-18769.	1.6	5
99	Quantitative Evidence for the Dependence of Highly Crystalline Single Wall Carbon Nanotube Synthesis on the Growth Method. Nanomaterials, 2021, 11, 3461.	1.9	5
100	Interactive Force between Cyclodextrin Inclusion Complexes Studied by Atomic Force Microscopy. Japanese Journal of Applied Physics, 2001, 40, 4419-4422.	0.8	4
101	Characteristic adsorption ofXeon aSi(111)âˆ'(7Ã—7)surface at low temperature. Physical Review B, 2002, 65, .	1.1	4
102	Limitation in growth temperature for water-assisted single wall carbon nanotube forest synthesis. MRS Advances, 2018, 3, 91-96.	0.5	4
103	Improving the synthetic efficiency of single-wall carbon nanotube forests using a gas-analysis-designed mixed carbon feedstock. Carbon, 2020, 170, 59-65.	5.4	4
104	Enhanced activity for reduction of 4-nitrophenol of Ni/single-walled carbon nanotube prepared by super-growth method. Nanotechnology, 2022, 33, 065707.	1.3	4
105	Adsorption and Wetting Structures of Kr on Pt(111) at 8 K and 45 K Studied by Scanning Tunneling Microscopy. Japanese Journal of Applied Physics, 2001, 40, 4399-4402.	0.8	3
106	Preferential oxidation-induced etching of zigzag edges in nanographene. Physical Chemistry Chemical Physics, 2014, 16, 21363-21371.	1.3	3
107	Breakdown of metallic single-wall carbon nanotube paths by NiO nanoparticle point etching for high performance thin film transistors. Nanoscale, 2015, 7, 1280-1284.	2.8	3
108	Monolayer formation of 6-deoxy-6-thiol-Î²-cyclodextrin on a Au(111) surface studied by scanning tunneling microscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1266-1269.	0.9	2

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109	Site-selective silicon adatom desorption using femtosecond laser pulse pairs and scanning tunneling microscopy. Applied Physics Letters, 2003, 83, 2333-2335.	1.5	2
110	"Super Growth" - highly efficient synthesis of impurity-free single-walled carbon nanotubes and its application. , 2005, , .		2
111	Scalability of the Heat and Current Treatment on SWCNTs to Improve their Crystallinity and Thermal and Electrical Conductivities. Nanoscale Research Letters, 2015, 10, 220.	3.1	2
112	Millimetre-scale growth of single-wall carbon nanotube forests using an aluminium nitride catalyst underlayer. MRS Advances, 2019, 4, 177-183.	0.5	2
113	A Hydrogen-Free Approach for Activating an Fe Catalyst Using Trace Amounts of Noble Metals and Confinement into Nanoparticles. Journal of Physical Chemistry Letters, 2022, 13, 1879-1885.	2.1	2
114	Multi-step chemical vapor synthesis reactor based on a microplasma for structure-controlled synthesis of single-walled carbon nanotubes. Chemical Engineering Journal, 2022, 444, 136634.	6.6	2
115	Characteristic structures of the Si(111)-7Ã—7 surface step studied by scanning tunneling microscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1549-1552.	0.9	1
116	Microsupercapacitors: Lithographically Integrated Microsupercapacitors for Compact, High Performance, and Designable Energy Circuits (Adv. Energy Mater. 18/2015). Advanced Energy Materials, 2015, 5, .	10.2	1
117	The double-edged effects of annealing MgO underlayers on the efficient synthesis of single-wall carbon nanotube forests. Nanoscale, 2017, 9, 17617-17622.	2.8	1
118	Additional obstacles in carbon nanotube growth by gas-flow directed chemical vapour deposition unveiled through improving growth density. Nanoscale Advances, 2019, 1, 4076-4081.	2.2	1
119	Crystalline and Electrical Property Improvement of Filtrated, Exfoliated Graphite Sheets by an In-Plane Current and Heating Treatment. Nanoscale Research Letters, 2020, 15, 195.	3.1	1
120	Influence of Carbon Nanotube Attributes on Carbon Nanotube/Cu Composite Electrical Performances. Journal of Carbon Research, 2021, 7, 78.	1.4	1
121	å•å±ã‚«ãƒ¼ãƒœãƒ³ãƒŠãƒŽãƒãƒ¥ãƒ¼ãƒ–ã®é‡ç”£åŒ–æŠ€è¡“ã®é€²å±•. Electrochemistry, 2007, 75, 370-373.	0.6	0
122	Anisotropic optical properties of vertically aligned single-walled carbon nanotubes. , 2009, , .		0
123	Carbon nanotubes plastic actuator: Towards lightweight, low-voltage haptic devices. , 2014, , .		0
124	Sub-millimeter arbitrary arrangements of monolithically micro-scale electrical double layer capacitors. Journal of Physics: Conference Series, 2015, 660, 012086.	0.3	0
125	Examining the structural contribution to the electrical character of single wall carbon nanotube forest by a height dependent study. Carbon, 2016, 108, 106-111.	5.4	0
126	High Aspect Ratio Machining of Nanocarbon Materials by Reactive Ion Etching. MRS Advances, 2017, 2, 9-14.	0.5	0

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127	Modulation of carbon nanotube yield and type through the collective effects of initially deposited catalyst amount and MgO underlayer annealing temperature. MRS Advances, 2019, 4, 139-146.	0.5	0