

# Rufan Zhang

## List of Publications by Year in descending order

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113  
papers

12,547  
citations

36203

51  
h-index

24915

109  
g-index

115  
all docs

115  
docs citations

115  
times ranked

15464  
citing authors

#	ARTICLE	IF	CITATIONS
1	Advanced Asymmetric Supercapacitors Based on Ni(OH) <sub>2</sub> /Graphene and Porous Graphene Electrodes with High Energy Density. <i>Advanced Functional Materials</i> , 2012, 22, 2632-2641.	7.8	1,855
2	Catalytic oxidation of Li <sub>2</sub> S on the surface of metal sulfides for Li <sup>+</sup> S batteries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 840-845.	3.3	1,030
3	The Road for Nanomaterials Industry: A Review of Carbon Nanotube Production, Post-Treatment, and Bulk Applications for Composites and Energy Storage. <i>Small</i> , 2013, 9, 1237-1265.	5.2	617
4	Nanofiber Air Filters with High-Temperature Stability for Efficient PM <sub>2.5</sub> Removal from the Pollution Sources. <i>Nano Letters</i> , 2016, 16, 3642-3649.	4.5	456
5	Self-healing SEI enables full-cell cycling of a silicon-majority anode with a coulombic efficiency exceeding 99.9%. <i>Energy and Environmental Science</i> , 2017, 10, 580-592.	15.6	421
6	Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. <i>ACS Nano</i> , 2018, 12, 11756-11784.	7.3	388
7	Aligned carbon nanotube/sulfur composite cathodes with high sulfur content for lithium-sulfur batteries. <i>Nano Energy</i> , 2014, 4, 65-72.	8.2	366
8	Efficient solar-driven water splitting by nanocone BiVO <sub>4</sub> -perovskite tandem cells. <i>Science Advances</i> , 2016, 2, e1501764.	4.7	351
9	Carbon Nanotube Mass Production: Principles and Processes. <i>ChemSusChem</i> , 2011, 4, 864-889.	3.6	329
10	Growth of Half-Meter Long Carbon Nanotubes Based on Schulz-Flory Distribution. <i>ACS Nano</i> , 2013, 7, 6156-6161.	7.3	308
11	Superlubricity in centimetres-long double-walled carbon nanotubes under ambient conditions. <i>Nature Nanotechnology</i> , 2013, 8, 912-916.	15.6	305
12	Roll-to-Roll Transfer of Electrospun Nanofiber Film for High-Efficiency Transparent Air Filter. <i>Nano Letters</i> , 2016, 16, 1270-1275.	4.5	289
13	Carbon nanotube bundles with tensile strength over 80 GPa. <i>Nature Nanotechnology</i> , 2018, 13, 589-595.	15.6	283
14	Air Filtration in the Free Molecular Flow Regime: A Review of High-Efficiency Particulate Air Filters Based on Carbon Nanotubes. <i>Small</i> , 2014, 10, 4543-4561.	5.2	279
15	The large-scale production of carbon nanotubes in a nano-agglomerate fluidized-bed reactor. <i>Chemical Physics Letters</i> , 2002, 364, 568-572.	1.2	275
16	Stitching h-BN by atomic layer deposition of LiF as a stable interface for lithium metal anode. <i>Science Advances</i> , 2017, 3, eaao3170.	4.7	252
17	Thermal Management in Nanofiber-Based Face Mask. <i>Nano Letters</i> , 2017, 17, 3506-3510.	4.5	228
18	Embedded High Density Metal Nanoparticles with Extraordinary Thermal Stability Derived from Guest-Host Mediated Layered Double Hydroxides. <i>Journal of the American Chemical Society</i> , 2010, 132, 14739-14741.	6.6	177

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19	Superstrong Ultralong Carbon Nanotubes for Mechanical Energy Storage. <i>Advanced Materials</i> , 2011, 23, 3387-3391.	11.1	170
20	Horizontally aligned carbon nanotube arrays: growth mechanism, controlled synthesis, characterization, properties and applications. <i>Chemical Society Reviews</i> , 2017, 46, 3661-3715.	18.7	153
21	Superdurable Bifunctional Oxygen Electrocatalyst for High-Performance Zinc-Air Batteries. <i>Journal of the American Chemical Society</i> , 2022, 144, 2694-2704.	6.6	151
22	The mass production of carbon nanotubes using a nano-agglomerate fluidized bed reactor: A multiscale space-time analysis. <i>Powder Technology</i> , 2008, 183, 10-20.	2.1	146
23	Sulfiphilic Nickel Phosphosulfide Enabled Li <sub>2</sub> S Impregnation in 3D Graphene Cages for Li-S Batteries. <i>Advanced Materials</i> , 2017, 29, 1603366.	11.1	139
24	Energy-Absorbing Hybrid Composites Based on Alternate Carbon-Nanotube and Inorganic Layers. <i>Advanced Materials</i> , 2009, 21, 2876-2880.	11.1	118
25	Membrane-Free Zn/MnO <sub>2</sub> Flow Battery for Large-Scale Energy Storage. <i>Advanced Energy Materials</i> , 2020, 10, 1902085.	10.2	111
26	Building flexible Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> /CNT lithium-ion battery anodes with superior rate performance and ultralong cycling stability. <i>Nano Energy</i> , 2014, 10, 344-352.	8.2	104
27	Growth Deceleration of Vertically Aligned Carbon Nanotube Arrays: Catalyst Deactivation or Feedstock Diffusion Controlled?. <i>Journal of Physical Chemistry C</i> , 2008, 112, 4892-4896.	1.5	102
28	Highly Nitridated Graphene-Li <sub>2</sub> S Cathodes with Stable Modulated Cycles. <i>Advanced Energy Materials</i> , 2015, 5, 1501369.	10.2	97
29	Radial growth of vertically aligned carbon nanotube arrays from ethylene on ceramic spheres. <i>Carbon</i> , 2008, 46, 1152-1158.	5.4	93
30	Conductive Metal-Organic Frameworks: Design, Synthesis, and Applications. <i>Small Methods</i> , 2020, 4, 2000396.	4.6	92
31	Super-durable ultralong carbon nanotubes. <i>Science</i> , 2020, 369, 1104-1106.	6.0	92
32	100-µm Long, Semiconducting Triple-Walled Carbon Nanotubes. <i>Advanced Materials</i> , 2010, 22, 1867-1871.	11.1	91
33	Silicon Carbide as a Protective Layer to Stabilize Si-Based Anodes by Inhibiting Chemical Reactions. <i>Nano Letters</i> , 2019, 19, 5124-5132.	4.5	91
34	Growing 20 cm Long DWNTs/TWNTs at a Rapid Growth Rate of 80~90 µm/s. <i>Chemistry of Materials</i> , 2010, 22, 1294-1296.	3.2	88
35	Mass production of aligned carbon nanotube arrays by fluidized bed catalytic chemical vapor deposition. <i>Carbon</i> , 2010, 48, 1196-1209.	5.4	86
36	Controlled Synthesis of Ultralong Carbon Nanotubes with Perfect Structures and Extraordinary Properties. <i>Accounts of Chemical Research</i> , 2017, 50, 179-189.	7.6	83

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37	In situ fabrication of depth-type hierarchical CNT/quartz fiber filters for high efficiency filtration of sub-micron aerosols and high water repellency. <i>Nanoscale</i> , 2013, 5, 3367.	2.8	82
38	Structural design and environmental applications of electrospun nanofibers. <i>Composites Part A: Applied Science and Manufacturing</i> , 2020, 137, 106009.	3.8	82
39	Single-Step Conversion of H <sub>2</sub> -Deficient Syngas into High Yield of Tetramethylbenzene. <i>ACS Catalysis</i> , 2019, 9, 2203-2212.	5.5	79
40	Two-dimensional metal-organic framework nanosheets: synthetic methodologies and electrocatalytic applications. <i>Journal of Materials Chemistry A</i> , 2020, 8, 15271-15301.	5.2	79
41	Stabilizing Cobalt Single Atoms via Flexible Carbon Membranes as Bifunctional Electrocatalysts for Binder-Free Zinc-Air Batteries. <i>Nano Letters</i> , 2022, 22, 2497-2505.	4.5	78
42	Centrifugation-free and high yield synthesis of nanosized H-ZSM-5 and its structure-guided aromatization of methanol to 1,2,4-trimethylbenzene. <i>Journal of Materials Chemistry A</i> , 2014, 2, 19797-19808.	5.2	76
43	Core-Shell Nanofibrous Materials with High Particulate Matter Removal Efficiencies and Thermally Triggered Flame Retardant Properties. <i>ACS Central Science</i> , 2018, 4, 894-898.	5.3	73
44	CO <sub>2</sub> -Assisted SWNT Growth on Porous Catalysts. <i>Chemistry of Materials</i> , 2007, 19, 1226-1230.	3.2	71
45	Resilient aligned carbon nanotube/graphene sandwiches for robust mechanical energy storage. <i>Nano Energy</i> , 2014, 7, 161-169.	8.2	66
46	In Situ Investigation on the Nanoscale Capture and Evolution of Aerosols on Nanofibers. <i>Nano Letters</i> , 2018, 18, 1130-1138.	4.5	65
47	Advances in Production and Applications of Carbon Nanotubes. <i>Topics in Current Chemistry</i> , 2017, 375, 18.	3.0	64
48	Dramatic enhancements in toughness of polyimide nanocomposite via long-CNT-induced long-range creep. <i>Journal of Materials Chemistry</i> , 2012, 22, 7050.	6.7	63
49	Optical visualization of individual ultralong carbon nanotubes by chemical vapour deposition of titanium dioxide nanoparticles. <i>Nature Communications</i> , 2013, 4, 1727.	5.8	60
50	Rate-selected growth of ultrapure semiconducting carbon nanotube arrays. <i>Nature Communications</i> , 2019, 10, 4467.	5.8	57
51	Morphology and property investigation of primary particulate matter particles from different sources. <i>Nano Research</i> , 2018, 11, 3182-3192.	5.8	54
52	Electrochromic Materials Based on Ions Insertion and Extraction. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	52
53	Hierarchical Agglomerates of Carbon Nanotubes as High-Pressure Cushions. <i>Nano Letters</i> , 2008, 8, 1323-1327.	4.5	50
54	RuCoO <sub>x</sub> Nanofoam as a High-Performance Trifunctional Electrocatalyst for Rechargeable Zinc-Air Batteries and Water Splitting. <i>Nano Letters</i> , 2021, 21, 9633-9641.	4.5	49

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55	The influence of straight pore blockage on the selectivity of methanol to aromatics in nanosized Zn/ZSM-5: an atomic Cs-corrected STEM analysis study. RSC Advances, 2016, 6, 74797-74801.	1.7	48
56	Confined growth of Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> nanoparticles in nitrogen-doped mesoporous graphene fibers for high-performance lithium-ion battery anodes. Nano Research, 2016, 9, 230-239.	5.8	48
57	Reactivation of dead sulfide species in lithium polysulfide flow battery for grid scale energy storage. Nature Communications, 2017, 8, 462.	5.8	48
58	Storage of Mechanical Energy Based on Carbon Nanotubes with High Energy Density and Power Density. Advanced Materials, 2019, 31, e1800680.	11.1	46
59	Selective Conversion of Syngas into Tetramethylbenzene via an Aldol-Aromatic Mechanism. ACS Catalysis, 2020, 10, 2477-2488.	5.5	44
60	Agglomerated carbon nanotubes and its mass production in a fluidized-bed reactor. Physica B: Condensed Matter, 2002, 323, 327-329.	1.3	43
61	Bio-inspired structural colors and their applications. Chemical Communications, 2021, 57, 13448-13464.	2.2	43
62	High-performance Carbon Aerogel Air Cathodes for Microbial Fuel Cells. ChemSusChem, 2016, 9, 2788-2795.	3.6	41
63	Designing hierarchical nanoporous membranes for highly efficient gas adsorption and storage. Science Advances, 2020, 6, .	4.7	41
64	Suppressing the Side Reaction by a Selective Blocking Layer to Enhance the Performance of Si-Based Anodes. Nano Letters, 2020, 20, 5176-5184.	4.5	39
65	Interwall Friction and Sliding Behavior of Centimeters Long Double-Walled Carbon Nanotubes. Nano Letters, 2016, 16, 1367-1374.	4.5	36
66	A Facile Strategy To Construct Au@V <sub>2</sub> O <sub>5</sub> +1 Nanoflowers as a Multicolor Electrochromic Material for Adaptive Camouflage. Nano Letters, 2022, 22, 3713-3720.	4.5	35
67	3D Pine-Needle-Like W <sub>18</sub> O <sub>49</sub> /TiO <sub>2</sub> Heterostructures as Dual-Band Electrochromic Materials with Ultrafast Response and Excellent Stability. Advanced Optical Materials, 2022, 10, .	3.6	34
68	Acoustic-assisted assembly of an individual monochromatic ultralong carbon nanotube for high on-current transistors. Science Advances, 2016, 2, e1601572.	4.7	32
69	Carbon nanotube light sensors with linear dynamic range of over 120 dB. Applied Physics Letters, 2014, 105, .	1.5	29
70	Facile and low-cost ceramic fiber-based carbon-carbon composite for solar evaporation. Science of the Total Environment, 2021, 759, 143546.	3.9	29
71	Highly Selective Conversion of CO <sub>2</sub> or CO into Precursors for Kerosene-Based Aviation Fuel via an Aldol-Aromatic Mechanism. ACS Catalysis, 2022, 12, 2023-2033.	5.5	28
72	The reason for the low density of horizontally aligned ultralong carbon nanotube arrays. Carbon, 2013, 52, 232-238.	5.4	27

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73	Iron-based clusters embedded in nitrogen doped activated carbon catalysts with superior cathodic activity in microbial fuel cells. <i>Journal of Materials Chemistry A</i> , 2020, 8, 10772-10778.	5.2	27
74	Carbon nanotube-penetrated mesoporous V <sub>2</sub> O <sub>5</sub> microspheres as high-performance cathode materials for lithium-ion batteries. <i>RSC Advances</i> , 2014, 4, 21018-21022.	1.7	25
75	Preloading catalysts in the reactor for repeated growth of horizontally aligned carbon nanotube arrays. <i>Carbon</i> , 2016, 98, 157-161.	5.4	21
76	Two-Dimensional Metal-Organic Framework Nanosheet Supported Noble Metal Nanocrystals for High-Efficiency Water Oxidation. <i>Advanced Materials Interfaces</i> , 2021, 8, 2002034.	1.9	21
77	Equilibrium analysis of methylbenzene intermediates for a methanol-to-olefins process. <i>Catalysis Science and Technology</i> , 2016, 6, 1297-1301.	2.1	19
78	Two-way desorption coupling to enhance the conversion of syngas into aromatics by MnO/H-ZSM-5. <i>Catalysis Science and Technology</i> , 2020, 10, 3366-3375.	2.1	19
79	Thermal Transport Across the Interface Between a Suspended Single-Walled Carbon Nanotube and Air. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2013, 17, 349-365.	1.4	18
80	Growth mechanism and kinetics of vertically aligned carbon nanotube arrays. <i>EcoMat</i> , 2021, 3, e12118.	6.8	18
81	Growth of high-density parallel arrays of ultralong carbon nanotubes with catalysts pinned by silica nanospheres. <i>Carbon</i> , 2013, 52, 535-540.	5.4	17
82	Ultrasensitive Airflow Sensors Based on Suspended Carbon Nanotube Networks. <i>Advanced Materials</i> , 2022, 34, e2107062.	11.1	17
83	Superdurable and fire-retardant structural coloration of carbon nanotubes. <i>Science Advances</i> , 2022, 8, .	4.7	16
84	Multi-scale analysis of the interaction in ultra-long carbon nanotubes and bundles. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 142, 104032.	2.3	15
85	Graphene/graphite sheet assisted growth of high-area-density horizontally aligned carbon nanotubes. <i>Chemical Communications</i> , 2014, 50, 11158-11161.	2.2	14
86	Approaching Theoretical Capacities in Thick Lithium Vanadium Phosphate Electrodes at High Charge/Discharge Rates. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 15608-15617.	3.2	14
87	Wafer-Scale Growth of Pristine and Doped Monolayer MoS <sub>2</sub> Films for Electronic Device Applications. <i>Inorganic Chemistry</i> , 2020, 59, 17356-17363.	1.9	14
88	Mechanical Behavior of Single and Bundled Defect-Free Carbon Nanotubes. <i>Accounts of Materials Research</i> , 2021, 2, 998-1009.	5.9	14
89	Catalysts for single-wall carbon nanotube synthesis—From surface growth to bulk preparation. <i>MRS Bulletin</i> , 2017, 42, 809-818.	1.7	13
90	Facile manipulation of individual carbon nanotubes assisted by inorganic nanoparticles. <i>Nanoscale</i> , 2013, 5, 6584.	2.8	12



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109	Fast In-Situ Optical Visualization of Carbon Nanotubes Assisted by Smoke. <i>Small Methods</i> , 2022, 6, 2101333.	4.6	1
110	Lithium diffusion through the TiN coating layer and formation of Li-Si alloy over Si@TiN anode. <i>Chemical Engineering Science</i> , 2022, 254, 117615.	1.9	1
111	Lithium Batteries: Highly Nitridated Graphene-Li <sub>2</sub> S Cathodes with Stable Modulated Cycles (Adv.) <i>Tj ETQq1 1 0.784314 rgBT /Overloc</i>	10.2	0
112	High-Performance Carbon Aerogel Air Cathodes for Microbial Fuel Cells. <i>ChemSusChem</i> , 2016, 9, 2718-2718.	3.6	0
113	Ultrasensitive Airflow Sensors Based on Suspended Carbon Nanotube Networks (Adv. Mater. 18/2022). <i>Advanced Materials</i> , 2022, 34, .	11.1	0