Allen Y Pei

List of Publications by Year
in descending order

56 papers	13,943 citations	31976 53 h-index	149698 56 g-index
56 all docs	56 docs citations	56 times ranked	11794 citing authors

#	Article	IF	Citations
1	Nanoscale Nucleation and Growth of Electrodeposited Lithium Metal. Nano Letters, 2017, 17, 1132-1139.	9.1	1,081
2	Atomic structure of sensitive battery materials and interfaces revealed by cryoâ€“electron microscopy. Science, 2017, 358, 506-510.	12.6	1,039
3	Materials for lithium-ion battery safety. Science Advances, 2018, 4, eaas9820.	10.3	958
4	Ultrathin, flexible, solid polymer composite electrolyte enabled with aligned nanoporous host for lithium batteries. Nature Nanotechnology, 2019, 14, 705-711.	31.5	773
5	Lithium Metal Anodes with an Adaptive â€œSolid-Liquidâ€•Interfacial Protective Layer. Journal of the American Chemical Society, 2017, 139, 4815-4820.	13.7	460
6	Surface Fluorination of Reactive Battery Anode Materials for Enhanced Stability. Journal of the American Chemical Society, 2017, 139, 11550-11558.	13.7	398
7	Highly Efficient Light-Driven TiO₂â€“Au Janus Micromotors. ACS Nano, 2016, 10, 839-844.	14.6	392
8	Stabilizing Lithium Metal Anodes by Uniform Li-Ion Flux Distribution in Nanochannel Confinement. Journal of the American Chemical Society, 2016, 138, 15443-15450.	13.7	386
9	Solubility-mediated sustained release enabling nitrate additive in carbonate electrolytes for stable lithium metal anode. Nature Communications, 2018, 9, 3656.	12.8	371
10	Efficient electrocatalytic CO2 reduction on a three-phase interface. Nature Catalysis, 2018, 1, 592-600.	34.4	336
11	Improving cyclability of Li metal batteries at elevated temperatures and its origin revealed by cryo-electron microscopy. Nature Energy, 2019, 4, 664-670.	39.5	336
12	Seawater-driven magnesium based Janus micromotors for environmental remediation. Nanoscale, 2013, 5, 4696.	5.6	333
13	Uniform High Ionic Conducting Lithium Sulfide Protection Layer for Stable Lithium Metal Anode. Advanced Energy Materials, 2019, 9, 1900858.	19.5	333
14	Water-Driven Micromotors. ACS Nano, 2012, 6, 8432-8438.	14.6	326
15	A manganeseâ€“hydrogen battery with potential for grid-scale energy storage. Nature Energy, 2018, 3, 428-435.	39.5	325
16	Bioinspired Helical Microswimmers Based on Vascular Plants. Nano Letters, 2014, 14, 305-310.	9.1	315
17	Effects of Polymer Coatings on Electrodeposited Lithium Metal. Journal of the American Chemical Society, 2018, 140, 11735-11744.	13.7	307
18	Catalytic Iridium-Based Janus Micromotors Powered by Ultralow Levels of Chemical Fuels. Journal of the American Chemical Society, 2014, 136, 2276-2279.	13.7	300

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19	Correlating Structure and Function of Battery Interphases at Atomic Resolution Using Cryoelectron Microscopy. Joule, 2018, 2, 2167-2177.	24.0	284
20	High-Performance Lithium Metal Negative Electrode with a Soft and Flowable Polymer Coating. ACS Energy Letters, 2016, 1, 1247-1255.	17.4	281
21	Vertically Aligned and Continuous Nanoscale Ceramicâ€“Polymer Interfaces in Composite Solid Polymer Electrolytes for Enhanced Ionic Conductivity. Nano Letters, 2018, 18, 3829-3838.	9.1	268
22	Stitching h-BN by atomic layer deposition of LiF as a stable interface for lithium metal anode. Science Advances, 2017, 3, eaao3170.	10.3	252
23	Robust Pinhole-free Li₃N Solid Electrolyte Grown from Molten Lithium. ACS Central Science, 2018, 4, 97-104.	11.3	197
24	Wrinkled Graphene Cages as Hosts for High-Capacity Li Metal Anodes Shown by Cryogenic Electron Microscopy. Nano Letters, 2019, 19, 1326-1335.	9.1	193
25	Organized Self-Assembly of Janus Micromotors with Hydrophobic Hemispheres. Journal of the American Chemical Society, 2013, 135, 998-1001.	13.7	189
26	Strong texturing of lithium metal in batteries. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12138-12143.	7.1	188
27	Fast galvanic lithium corrosion involving a Kirkendall-type mechanism. Nature Chemistry, 2019, 11, 382-389.	13.6	180
28	Fast lithium growth and short circuit induced by localized-temperature hotspots in lithium batteries. Nature Communications, 2019, 10, 2067.	12.8	177
29	A Dynamic, Electrolyte-Blocking, and Single-Ion-Conductive Network for Stable Lithium-Metal Anodes. Joule, 2019, 3, 2761-2776.	24.0	176
30	Fundamental study on the wetting property of liquid lithium. Energy Storage Materials, 2018, 14, 345-350.	18.0	161
31	An Ultrastrong Double-Layer Nanodiamond Interface for Stable Lithium Metal Anodes. Joule, 2018, 2, 1595-1609.	24.0	155
32	Engineering stable interfaces for three-dimensional lithium metal anodes. Science Advances, 2018, 4, eaat5168.	10.3	153
33	Polymer-based tubular microbots: role of composition and preparation. Nanoscale, 2012, 4, 2447.	5.6	150
34	Lithium metal stripping beneath the solid electrolyte interphase. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8529-8534.	7.1	150
35	Tortuosity Effects in Lithium-Metal Host Anodes. Joule, 2020, 4, 938-952.	24.0	150
36	Stabilized Li3N for efficient battery cathode prelithiation. Energy Storage Materials, 2017, 6, 119-124.	18.0	143

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37	Nanomotor lithography. Nature Communications, 2014, 5, 5026.	12.8	141
38	Stretchable Lithium Metal Anode with Improved Mechanical and Electrochemical Cycling Stability. Joule, 2018, 2, 1857-1865.	24.0	132
39	Breathing-Mimicking Electrocatalysis for Oxygen Evolution and Reduction. Joule, 2019, 3, 557-569.	24.0	132
40	Nanoscale perspective: Materials designs and understandings in lithium metal anodes. Nano Research, 2017, 10, 4003-4026.	10.4	130
41	Shell-Protective Secondary Silicon Nanostructures as Pressure-Resistant High-Volumetric-Capacity Anodes for Lithium-Ion Batteries. Nano Letters, 2018, 18, 7060-7065.	9.1	121
42	Supercooled liquid sulfur maintained in three-dimensional current collector for high-performance Li-S batteries. Science Advances, 2020, 6, eaay5098.	10.3	95
43	A general prelithiation approach for group IV elements and corresponding oxides. Energy Storage Materials, 2018, 10, 275-281.	18.0	94
44	Underpotential lithium plating on graphite anodes caused by temperature heterogeneity. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 29453-29461.	7.1	94
45	Transient Voltammetry with Ultramicroelectrodes Reveals the Electron Transfer Kinetics of Lithium Metal Anodes. ACS Energy Letters, 2020, 5, 701-709.	17.4	91
46	Revealing Nanoscale Passivation and Corrosion Mechanisms of Reactive Battery Materials in Gas Environments. Nano Letters, 2017, 17, 5171-5178.	9.1	88
47	An Interconnected Channelâ€Like Framework as Host for Lithium Metal Composite Anodes. Advanced Energy Materials, 2019, 9, 1802720.	19.5	83
48	Composite lithium electrode with mesoscale skeleton via simple mechanical deformation. Science Advances, 2019, 5, eaau5655.	10.3	79
49	Nanostructural and Electrochemical Evolution of the Solid-Electrolyte Interphase on CuO Nanowires Revealed by Cryogenic-Electron Microscopy and Impedance Spectroscopy. ACS Nano, 2019, 13, 737-744.	14.6	78
50	Amidoxime-Functionalized Macroporous Carbon Self-Refreshed Electrode Materials for Rapid and High-Capacity Removal of Heavy Metal from Water. ACS Central Science, 2019, 5, 719-726.	11.3	76
51	In Situ Investigation on the Nanoscale Capture and Evolution of Aerosols on Nanofibers. Nano Letters, 2018, 18, 1130-1138.	9.1	65
52	Electrochemical generation of liquid and solid sulfur on two-dimensional layered materials with distinct areal capacities. Nature Nanotechnology, 2020, 15, 231-237.	31.5	65
53	An ultrathin ionomer interphase for high efficiency lithium anode in carbonate based electrolyte. Nature Communications, 2019, 10, 5824.	12.8	62
54	ZnO-based microrockets with light-enhanced propulsion. Nanoscale, 2017, 9, 15027-15032.	5.6	53

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55	Motion-based threat detection using microrods: experiments and numerical simulations. Nanoscale, 2015, 7, 7833-7840.	5.6	26
56	Electrotunable liquid sulfurÂmicrodroplets. Nature Communications, 2020, 11, 606.	12.8	22