Wei Wang

List of Publications by Year
in descending order

96 papers	16,367 citations	20817 60 h-index	34986 98 g-index
99 all docs	99 docs citations	99 times ranked	11915 citing authors

#	Article	IF	Citations
1	Sodium Ion Insertion in Hollow Carbon Nanowires for Battery Applications. Nano Letters, 2012, 12, 3783-3787.	9.1	1,552
2	Recent Progress in Redox Flow Battery Research and Development. Advanced Functional Materials, 2013, 23, 970-986.	14.9	1,240
3	A Stable Vanadium Redoxâ€Flow Battery with High Energy Density for Largeâ€Scale Energy Storage. Advanced Energy Materials, 2011, 1, 394-400.	19.5	688
4	Reversible Sodium Ion Insertion in Single Crystalline Manganese Oxide Nanowires with Long Cycle Life. Advanced Materials, 2011, 23, 3155-3160.	21.0	638
5	High capacity, reversible alloying reactions in SnSb/C nanocomposites for Na-ion battery applications. Chemical Communications, 2012, 48, 3321.	4.1	566
6	Material design and engineering of next-generation flow-battery technologies. Nature Reviews Materials, 2017, 2, .	48.7	559
7	Nanostructured Hybrid Silicon/Carbon Nanotube Heterostructures: Reversible High-Capacity Lithium-Ion Anodes. ACS Nano, 2010, 4, 2233-2241.	14.6	509
8	A Total Organic Aqueous Redox Flow Battery Employing a Low Cost and Sustainable Methyl Viologen Anolyte and 4â€HOâ€TEMPO Catholyte. Advanced Energy Materials, 2016, 6, 1501449.	19.5	480
9	Controlling SEI Formation on SnSbâ€Porous Carbon Nanofibers for Improved Na Ion Storage. Advanced Materials, 2014, 26, 2901-2908.	21.0	441
10	Bismuth Nanoparticle Decorating Graphite Felt as a High-Performance Electrode for an All-Vanadium Redox Flow Battery. Nano Letters, 2013, 13, 1330-1335.	9.1	392
11	Ambipolar zinc-polyiodide electrolyte for a high-energy density aqueous redox flow battery. Nature Communications, 2015, 6, 6303.	12.8	392
12	TEMPOâ€Based Catholyte for Highâ€Energy Density Nonaqueous Redox Flow Batteries. Advanced Materials, 2014, 26, 7649-7653.	21.0	387
13	Materials and Systems for Organic Redox Flow Batteries: Status and Challenges. ACS Energy Letters, 2017, 2, 2187-2204.	17.4	359
14	LiMnPO₄ Nanoplate Grown via Solid-State Reaction in Molten Hydrocarbon for Li-Ion Battery Cathode. Nano Letters, 2010, 10, 2799-2805.	9.1	354
15	Hard carbon nanoparticles as high-capacity, high-stability anodic materials for Na-ion batteries. Nano Energy, 2016, 19, 279-288.	16.0	341
16	A biomimetic high-capacity phenazine-based anolyte for aqueous organic redox flow batteries. Nature Energy, 2018, 3, 508-514.	39.5	337
17	Cost and performance model for redox flow batteries. Journal of Power Sources, 2014, 247, 1040-1051.	7.8	329
18	Hollow coreâ€"shell structured porous Siâ€"C nanocomposites for Li-ion battery anodes. Journal of Materials Chemistry, 2012, 22, 11014.	6.7	280

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19	Nanorod Niobium Oxide as Powerful Catalysts for an All Vanadium Redox Flow Battery. Nano Letters, 2014, 14, 158-165.	9.1	279
20	Radical Compatibility with Nonaqueous Electrolytes and Its Impact on an Allâ€Organic Redox Flow Battery. Angewandte Chemie - International Edition, 2015, 54, 8684-8687.	13.8	271
21	Highly Reversible Zinc-Ion Intercalation into Chevrel Phase Mo₆S₈ Nanocubes and Applications for Advanced Zinc-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 13673-13677.	8.0	256
22	Surface-Driven Sodium Ion Energy Storage in Nanocellular Carbon Foams. Nano Letters, 2013, 13, 3909-3914.	9.1	245
23	Anthraquinone with tailored structure for a nonaqueous metalâ€"organic redox flow battery. Chemical Communications, 2012, 48, 6669.	4.1	217
24	Unraveling pH dependent cycling stability of ferricyanide/ferrocyanide in redox flow batteries. Nano Energy, 2017, 42, 215-221.	16.0	210
25	A High-Current, Stable Nonaqueous Organic Redox Flow Battery. ACS Energy Letters, 2016, 1, 705-711.	17.4	202
26	A new redox flow battery using Fe/V redox couples in chloride supporting electrolyte. Energy and Environmental Science, 2011, 4, 4068.	30.8	181
27	Towards Highâ€Performance Nonaqueous Redox Flow Electrolyte Via Ionic Modification of Active Species. Advanced Energy Materials, 2015, 5, 1400678.	19.5	181
28	A symmetric organic-based nonaqueous redox flow battery and its state of charge diagnostics by FTIR. Journal of Materials Chemistry A, 2016, 4, 5448-5456.	10.3	167
29	1ÂkW/1ÂkWh advanced vanadium redox flow battery utilizing mixed acid electrolytes. Journal of Power Sources, 2013, 237, 300-309.	7.8	160
30	Capacity Decay and Remediation of Nafionâ€based Allâ€Vanadium Redox Flow Batteries. ChemSusChem, 2013, 6, 268-274.	6.8	160
31	â€œWine-Dark Seaâ€•in an Organic Flow Battery: Storing Negative Charge in 2,1,3-Benzothiadiazole Radicals Leads to Improved Cyclability. ACS Energy Letters, 2017, 2, 1156-1161.	17.4	160
32	A Long Cycle Life, Selfâ€Healing Zincâ€"Iodine Flow Battery with High Power Density. Angewandte Chemie - International Edition, 2018, 57, 11171-11176.	13.8	150
33	Li-ion batteries from LiFePO4 cathode and anatase/graphene composite anode for stationary energy storage. Electrochemistry Communications, 2010, 12, 378-381.	4.7	145
34	Nanoporous Polytetrafluoroethylene/Silica Composite Separator as a Highâ€Performance Allâ€Vanadium Redox Flow Battery Membrane. Advanced Energy Materials, 2013, 3, 1215-1220.	19.5	143
35	Reversible ketone hydrogenation and dehydrogenation for aqueous organic redox flow batteries. Science, 2021, 372, 836-840.	12.6	135
36	Enhanced performance of graphite anode materials by AlF3 coating for lithium-ion batteries. Journal of Materials Chemistry, 2012, 22, 12745.	6.7	129

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37	Chloride supporting electrolytes for all-vanadium redox flow batteries. Physical Chemistry Chemical Physics, 2011, 13, 18186.	2.8	126
38	Effects of additives on the stability of electrolytes for all-vanadium redox flow batteries. Journal of Applied Electrochemistry, 2011, 41, 1215-1221.	2.9	118
39	A New Fe/V Redox Flow Battery Using a Sulfuric/Chloric Mixedâ€Acid Supporting Electrolyte. Advanced Energy Materials, 2012, 2, 487-493.	19.5	114
40	Stabilization of Silicon Anode for Li-Ion Batteries. Journal of the Electrochemical Society, 2010, 157, A1047.	2.9	108
41	Thermal stability and phase transformation of electrochemically charged/discharged LiMnPO4 cathode for Li-ion batteries. Energy and Environmental Science, 2011, 4, 4560.	30.8	107
42	Redox flow batteries go organic. Nature Chemistry, 2016, 8, 204-206.	13.6	106
43	Reversible high capacity nanocomposite anodes of Si/C/SWNTs for rechargeable Li-ion batteries. Journal of Power Sources, 2007, 172, 650-658.	7.8	102
44	Performance of NafionÂ® N115, NafionÂ® NR-212, and NafionÂ® NR-211 in a 1ÂkW class all vanadium mixed acid redox flow battery. Journal of Power Sources, 2015, 285, 425-430.	7.8	99
45	Vertically aligned silicon/carbon nanotube (VASCNT) arrays: Hierarchical anodes for lithium-ion battery. Electrochemistry Communications, 2011, 13, 429-432.	4.7	94
46	Emerging chemistries and molecular designs for flow batteries. Nature Reviews Chemistry, 2022, 6, 524-543.	30.2	93
47	Elucidating the higher stability of vanadium(V) cations in mixed acid based redox flow battery electrolytes. Journal of Power Sources, 2013, 241, 173-177.	7.8	85
48	Metalâ€“Organic Frameworks as Highly Active Electrocatalysts for High-Energy Density, Aqueous Zinc-Polyiodide Redox Flow Batteries. Nano Letters, 2016, 16, 4335-4340.	9.1	79
49	Nanostructured Electrocatalysts for PEM Fuel Cells and Redox Flow Batteries: A Selected Review. ACS Catalysis, 2015, 5, 7288-7298.	11.2	78
50	Silicon-based composite anodes for Li-ion rechargeable batteries. Journal of Materials Chemistry, 2007, 17, 3229.	6.7	76
51	Reversible redox chemistry in azobenzene-based organic molecules for high-capacity and long-life nonaqueous redox flow batteries. Nature Communications, 2020, 11, 3843.	12.8	76
52	Symmetry-breaking design of an organic iron complex catholyte for a long cyclability aqueous organic redox flow battery. Nature Energy, 2021, 6, 873-881.	39.5	76
53	Comparative analysis for various redox flow batteries chemistries using a cost performance model. Journal of Power Sources, 2015, 293, 388-399.	7.8	75
54	Impact response by a foamlike forest of coiled carbon nanotubes. Journal of Applied Physics, 2006, 100, 064309.	2.5	72

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55	Capacity Decay Mechanism of Microporous Separatorâ€Based Allâ€Vanadium Redox Flow Batteries and its Recovery. ChemSusChem, 2014, 7, 577-584.	6.8	72
56	In-situ investigation of vanadium ion transport in redox flow battery. Journal of Power Sources, 2012, 218, 15-20.	7.8	71
57	Stack Developments in a kW Class All Vanadium Mixed Acid Redox Flow Battery at the Pacific Northwest National Laboratory. Journal of the Electrochemical Society, 2016, 163, A5211-A5219.	2.9	71
58	Tunable Oxygen Functional Groups as Electrocatalysts on Graphite Felt Surfaces for Allâ€Vanadium Flow Batteries. ChemSusChem, 2016, 9, 1455-1461.	6.8	66
59	Performance of a low cost interdigitated flow design on a 1ÂkW class all vanadium mixed acid redox flow battery. Journal of Power Sources, 2016, 306, 24-31.	7.8	64
60	An Aqueous Redox Flow Battery Based on Neutral Alkali Metal Ferri/ferrocyanide and Polysulfide Electrolytes. Journal of the Electrochemical Society, 2016, 163, A5150-A5153.	2.9	64
61	Anion-Tunable Properties and Electrochemical Performance of Functionalized Ferrocene Compounds. Scientific Reports, 2015, 5, 14117.	3.3	62
62	A Twoâ€Electron Storage Nonaqueous Organic Redox Flow Battery. Advanced Sustainable Systems, 2018, 2, 1700131.	5.3	60
63	Lithium-ion batteries for stationary energy storage. Jom, 2010, 62, 24-30.	1.9	59
64	Microporous separators for Fe/V redox flow batteries. Journal of Power Sources, 2012, 218, 39-45.	7.8	59
65	The lightest organic radical cation for charge storage in redox flow batteries. Scientific Reports, 2016, 6, 32102.	3.3	59
66	Annulated Dialkoxybenzenes as Catholyte Materials for Nonâ€aqueous Redox Flow Batteries: Achieving High Chemical Stability through Bicyclic Substitution. Advanced Energy Materials, 2017, 7, 1701272.	19.5	57
67	Simply AlF3-treated Li4Ti5O12 composite anode materials for stable and ultrahigh power lithium-ion batteries. Journal of Power Sources, 2013, 236, 169-174.	7.8	51
68	Porous Polymeric Composite Separators for Redox Flow Batteries. Polymer Reviews, 2015, 55, 247-272.	10.9	48
69	Tuning the Perfluorosulfonic Acid Membrane Morphology for Vanadium Redox-Flow Batteries. ACS Applied Materials & Interfaces, 2016, 8, 34327-34334.	8.0	48
70	Li-Ion Battery with LiFePO4 Cathode and Li4Ti5O12 Anode for Stationary Energy Storage. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 21-25.	2.2	38
71	Polyvinyl Chloride/Silica Nanoporous Composite Separator for All-Vanadium Redox Flow Battery Applications. Journal of the Electrochemical Society, 2013, 160, A1215-A1218.	2.9	38
72	High-energy and low-cost membrane-free chlorine flow battery. Nature Communications, 2022, 13, 1281.	12.8	34

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73	A new hybrid redox flow battery with multiple redox couples. Journal of Power Sources, 2012, 216, 99-103.	7.8	32
74	Understanding Aqueous Electrolyte Stability through Combined Computational and Magnetic Resonance Spectroscopy: A Case Study on Vanadium Redox Flow Battery Electrolytes. ChemPlusChem, 2015, 80, 428-437.	2.8	32
75	Fe/V redox flow battery electrolyte investigation and optimization. Journal of Power Sources, 2013, 229, 1-5.	7.8	30
76	Natural abundance 17O nuclear magnetic resonance and computational modeling studies of lithium based liquid electrolytes. Journal of Power Sources, 2015, 285, 146-155.	7.8	29
77	Decomposition pathways and mitigation strategies for highly-stable hydroxyphenazine flow battery anolytes. Journal of Materials Chemistry A, 2021, 9, 21918-21928.	10.3	25
78	Diffusional motion of redox centers in carbonate electrolytes. Journal of Chemical Physics, 2014, 141, 104509.	3.0	24
79	Electrochemical Model of the Fe/V Redox Flow Battery. Journal of the Electrochemical Society, 2012, 159, A1993-A2000.	2.9	23
80	Analytical modeling for redox flow battery design. Journal of Power Sources, 2021, 482, 228817.	7.8	23
81	Machine Learning Coupled Multiâ€Scale Modeling for Redox Flow Batteries. Advanced Theory and Simulations, 2020, 3, 1900167.	2.8	21
82	A membrane-free interfacial battery with high energy density. Chemical Communications, 2018, 54, 11626-11629.	4.1	20
83	Evaluation of Deep Learning Architectures for Aqueous Solubility Prediction. ACS Omega, 2022, 7, 15695-15710.	3.5	20
84	Preferential Solvation of an Asymmetric Redox Molecule. Journal of Physical Chemistry C, 2016, 120, 27834-27839.	3.1	18
85	An Electrochemical Hydrogen-Looping System for Low-Cost CO₂ Capture from Seawater. ACS Energy Letters, 2022, 7, 1947-1952.	17.4	17
86	Nuclear magnetic resonance studies of the solvation structures of a high-performance nonaqueous redox flow electrolyte. Journal of Power Sources, 2016, 308, 172-179.	7.8	15
87	A two-dimensional analytical unit cell model for redox flow battery evaluation and optimization. Journal of Power Sources, 2021, 506, 230192.	7.8	15
88	Towards an all-vanadium redox flow battery with higher theoretical volumetric capacities by utilizing the VO2+/V3+ couple. Journal of Energy Chemistry, 2018, 27, 1381-1385.	12.9	14
89	Monitoring the Stateâ€ofâ€Charge of a Vanadium Redox Flow Battery with the Acoustic Attenuation Coefficient: An In Operando Noninvasive Method. Small Methods, 2019, 3, 1900494.	8.6	14
90	Accelerated design of vanadium redox flow battery electrolytes through tunable solvation chemistry. Cell Reports Physical Science, 2021, 2, 100323.	5.6	12

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91	Wet-chemical synthesis of Li7P3S11 with tailored particle size for solid state electrolytes. Chemical Engineering Journal, 2022, 429, 132334.	12.7	12
92	Graphical Gaussian process regression model for aqueous solvation free energy prediction of organic molecules in redox flow batteries. Physical Chemistry Chemical Physics, 2021, 23, 24892-24904.	2.8	8
93	Aqua-Vanadyl Ion Interaction with NafionÃ‚Â® Membranes. Frontiers in Energy Research, 2015, 3, .	2.3	7
94	Physics-informed CoKriging model of a redox flow battery. Journal of Power Sources, 2022, 542, 231668.	7.8	5
95	A membrane with repelling power. Nature Energy, 2021, 6, 452-453.	39.5	3
96	Crosslinked Polyethyleneimine Gel Polymer Interface to Improve Cycling Stability of RFBs. Energy Material Advances, 2022, 2022, .	11.0	3