Huigang Zhang

List of Publications by Citations

96 papers	6,206 citations	30 h-index	78 g-index
104 ext. papers	7,285 ext. citations	10.8 avg, IF	5.98 L-index

#	Paper	IF	Citations
96	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. *Nature Communications*, **2013**, 4, 1543	17.4	978
95	Three-dimensional bicontinuous ultrafast-charge and -discharge bulk battery electrodes. *Nature Nanotechnology*, **2011**, 6, 277-81	28.7	940
94	One-Pot Synthesis and Hierarchical Assembly of Hollow Cu2O Microspheres with Nanocrystals-Composed Porous Multishell and Their Gas-Sensing Properties. *Advanced Functional Materials*, **2007**, 17, 2766-2771	15.6	481
93	High-power lithium ion microbatteries from interdigitated three-dimensional bicontinuous nanoporous electrodes. *Nature Communications*, **2013**, 4, 1732	17.4	449
92	Multifunctional Co 3 S 4 @sulfur nanotubes for enhanced lithium-sulfur battery performance. *Nano Energy*, **2017**, 37, 7-14	17.1	254
91	Three-dimensional metal scaffold supported bicontinuous silicon battery anodes. *Nano Letters*, **2012**, 12, 2778-83	11.5	229
90	Fabrication of beta-Ni(OH)2 and NiO hollow spheres by a facile template-free process. *Chemical Communications*, **2005**, 5231-3	5.8	224
89	Nitrogen-Doped CoP Electrocatalysts for Coupled Hydrogen Evolution and Sulfur Generation with Low Energy Consumption. *Advanced Materials*, **2018**, 30, e1800140	24	224
88	Conductivity and lithiophilicity gradients guide lithium deposition to mitigate short circuits. *Nature Communications*, **2019**, 10, 1896	17.4	150
87	High power rechargeable batteries. *Current Opinion in Solid State and Materials Science*, **2012**, 16, 186-198	12	145
86	e occupancy as an effective descriptor for the catalytic activity of perovskite oxide-based peroxidase mimics. *Nature Communications*, **2019**, 10, 704	17.4	112
85	Interlayer Lithium Plating in Au Nanoparticles Pillared Reduced Graphene Oxide for Lithium Metal Anodes. *Advanced Functional Materials*, **2018**, 28, 1804133	15.6	105
84	Rational Design of a NiN Electrocatalyst to Accelerate Polysulfide Conversion in Lithium-Sulfur Batteries. *ACS Nano*, **2020**, 14, 6673-6682	16.7	103
83	Mechanically and chemically robust sandwich-structured C@Si@C nanotube array Li-ion battery anodes. *ACS Nano*, **2015**, 9, 1985-94	16.7	103
82	Electrochemically tunable thermal conductivity of lithium cobalt oxide. *Nature Communications*, **2014**, 5, 4035	17.4	92
81	Morphologically Controlled Synthesis of Hydroxyapatite with Partial Substitution of Fluorine. *Chemistry of Materials*, **2005**, 17, 5824-5830	9.6	81
80	3D Scaffolded Nickel-Tin Li-Ion Anodes with Enhanced Cyclability. *Advanced Materials*, **2016**, 28, 742-7	24	80

79	Biomimetic Bipolar Microcapsules Derived from Staphylococcus aureus for Enhanced Properties of Lithium–Sulfur Battery Cathodes. *Advanced Energy Materials*, **2018**, 8, 1702373	21.8	77
78	Efficient Ni2Co4P3 Nanowires Catalysts Enhance Ultrahigh-Loading Lithium–Sulfur Conversion in a Microreactor-Like Battery. *Advanced Functional Materials*, **2020**, 30, 1906661	15.6	77
77	Gas-sensing properties of hollow and hierarchical copper oxide microspheres. *Sensors and Actuators B: Chemical*, **2007**, 128, 293-298	8.5	71
76	Fabrication and magnetic properties of hierarchical porous hollow nickel microspheres. *Journal of Materials Chemistry*, **2006**, 16, 1212		65
75	Stable and conductive lead halide perovskites facilitated by X-type ligands. *Nanoscale*, **2017**, 9, 7252-7259	7.7	55
74	Hydrothermal fabrication of three-dimensional secondary battery anodes. *Advanced Materials*, **2014**, 26, 7096-101	24	46
73	Electroplating lithium transition metal oxides. *Science Advances*, **2017**, 3, e1602427	14.3	45
72	Carbon Nanotube@RuO as a High Performance Catalyst for Li-CO Batteries. *ACS Applied Materials & Interfaces*, **2019**, 11, 5146-5151	9.5	45
71	Enhanced synergistic catalysis by a novel triple-phase interface design of NiO/Ru@Ni for the hydrogen evolution reaction. *Journal of Materials Chemistry A*, **2019**, 7, 2344-2350	13	43
70	Structure design of NiCo2O4 electrodes for high performance pseudocapacitors and lithium-ion batteries. *Journal of Materials Chemistry A*, **2016**, 4, 17394-17402	13	40
69	Mechanochemical–hydrothermal synthesis and characterization of fluoridated hydroxyapatite. *Materials Research Bulletin*, **2005**, 40, 1326-1334	5.1	37
68	Novel Co VO Anodes Using Ultralight 3D Metallic Current Collector and Carbon Sandwiched Structures for High-Performance Li-Ion Batteries. *Small*, **2017**, 13, 1701260	11	36
67	Carbon-Free O Cathode with Three-Dimensional Ultralight Nickel Foam-Supported Ruthenium Electrocatalysts for Li-O Batteries. *ChemSusChem*, **2017**, 10, 2714-2719	8.3	31
66	Template-assisted three-dimensional nanolithography via geometrically irreversible processing. *Nano Letters*, **2009**, 9, 4424-7	11.5	30
65	Electrodeposition Technologies for Li-Based Batteries: New Frontiers of Energy Storage. *Advanced Materials*, **2020**, 32, e1903808	24	28
64	Porous-Nickel-Scaffolded Tin-Antimony Anodes with Enhanced Electrochemical Properties for Li/Na-Ion Batteries. *ACS Applied Materials & Interfaces*, **2017**, 9, 25250-25256	9.5	27
63	Synergistic effect of ultrafine nano-Ru decorated cobalt carbonate hydroxides nanowires for accelerated alkaline hydrogen evolution reaction. *Electrochimica Acta*, **2020**, 331, 135367	6.7	27
62	Hammett Relationship in Oxidase-Mimicking Metal-Organic Frameworks Revealed through a Protein-Engineering-Inspired Strategy. *Advanced Materials*, **2021**, 33, e2005024	24	27

61	Engineering Polymer Glue towards 90% Zinc Utilization for 1000 Hours to Make High-Performance Zn-Ion Batteries. *Advanced Functional Materials*,2107652	15.6	27
60	In situ surface engineering of nickel inverse opal for enhanced overall electrocatalytic water splitting. *Journal of Materials Chemistry A*, **2017**, 5, 14873-14880	13	26
59	Highly enhanced durability of a graphitic carbon layer decorated PtNi alloy electrocatalyst toward the oxygen reduction reaction. *Chemical Communications*, **2019**, 55, 5693-5696	5.8	26
58	Oxygen-Deficient Ferric Oxide as an Electrochemical Cathode Catalyst for High-Energy Lithium-Sulfur Batteries. *Small*, **2020**, 16, e2000870	11	26
57	(Co/Fe)4O4 Cubane-Containing Nanorings Fabricated by Phosphorylating Cobalt Ferrite for Highly Efficient Oxygen Evolution Reaction. *ACS Catalysis*, **2019**, 9, 3878-3887	13.1	25
56	Fabrication and structural optimization of porous single-crystal □Fe2O3 microrices for high-performance lithium-ion battery anodes. *Journal of Materials Chemistry A*, **2015**, 3, 16544-16550	13	25
55	Surfactant-assisted preparation of fluoride-substituted hydroxyapatite nanorods. *Materials Letters*, **2005**, 59, 3054-3058	3.3	24
54	A Self-Healing Flexible Quasi-Solid Zinc-Ion Battery Using All-In-One Electrodes. *Advanced Science*, **2021**, 8, 2004689	13.6	23
53	Preparation of porous hydroxyapatite with interconnected pore architecture. *Journal of Materials Science: Materials in Medicine*, **2007**, 18, 1825-9	4.5	20
52	General Metal-Ion Mediated Method for Functionalization of Graphene Fiber. *ACS Applied Materials & Interfaces*, **2017**, 9, 37022-37030	9.5	19
51	Multiple-interface relay catalysis: Enhancing alkaline hydrogen evolution through a combination of Volmer promoter and electrical-behavior regulation. *Chemical Engineering Journal*, **2020**, 397, 125457	14.7	18
50	Selected-control synthesis of hierarchical nickel structures. *Materials Research Bulletin*, **2007**, 42, 1450-1456	5.6	16
49	Electrochemical Fabrication of Monolithic Electrodes with Core/Shell Sandwiched Transition Metal Oxide/Oxyhydroxide for High-Performance Energy Storage. *ACS Applied Materials & Interfaces*, **2016**, 8, 25888-25895	9.5	16
48	In operando plasmonic monitoring of electrochemical evolution of lithium metal. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 11168-11173	11.5	16
47	Aliovalent fluorine doping and anodization-induced amorphization enable bifunctional catalysts for efficient water splitting. *Journal of Materials Chemistry A*, **2020**, 8, 10831-10838	13	15
46	Interfacial design principle of sodiophilicity-regulated interlayer deposition in a sandwiched sodium metal anode. *Energy Storage Materials*, **2020**, 31, 221-229	19.4	15
45	Preparation of fluoride-substituted hydroxyapatite by a molten salt synthesis route. *Journal of Materials Science: Materials in Medicine*, **2006**, 17, 691-5	4.5	15
44	High-performance Li-ion Sn anodes with enhanced electrochemical properties using highly conductive TiN nanotubes array as a 3D multifunctional support. *Journal of Power Sources*, **2017**, 360, 189-195	8.9	14

43	Micromechanical devices with controllable stiffness fabricated from regular 3D porous materials. *Journal of Micromechanics and Microengineering*, **2014**, 24, 105006	2	14
42	Low Interface Energies Tune the Electrochemical Reversibility of Tin Oxide Composite Nanoframes as Lithium-Ion Battery Anodes. *ACS Applied Materials & Interfaces*, **2018**, 10, 36892-36901	9.5	14
41	Glutamic Acid-mediated Synthesis of Ultralong Hydroxyapatite Nanoribbons under Hydrothermal Conditions. *Chemistry Letters*, **2005**, 34, 788-789	1.7	13
40	A hollow Co2SiO4 nanosheet Li-ion battery anode with high electrochemical performance and its dynamic lithiation/delithiation using in situ transmission electron microscopy technology. *Applied Surface Science*, **2019**, 490, 510-515	6.7	12
39	In Situ Tuning of Defects and Phase Transition in Titanium Dioxide by Lithiothermic Reduction. *ACS Applied Materials & Interfaces*, **2020**, 12, 5750-5758	9.5	12
38	A novel ternary sulfur/carbon@tin dioxide composite with polysulfides-adsorptive shell and conductive core as high-performance lithium-sulfur battery cathodes. *Applied Surface Science*, **2019**, 489, 462-469	6.7	11
37	SYNTHESIS OF NANOSPHERICAL AND ULTRALONG FIBROUS HYDROXYAPATITE AND REINFORCEMENT OF BIODEGRADABLE CHITOSAN/HYDROXYAPATITE COMPOSITE. *Modern Physics Letters B*, **2009**, 23, 3967-3976	1.6	11
36	Low-cost synthesis of hollow Cu2O octahedra with more than one shell. *Materials Letters*, **2007**, 61, 4508-4511	3.3	11
35	Ultra-flexible lithium ion batteries fabricated by electrodeposition and solvothermal synthesis. *Electrochimica Acta*, **2017**, 237, 119-126	6.7	10
34	Electronic modulation of nickel phosphide by iron doping and its assembly on a graphene framework for efficient electrocatalytic water oxidation. *Journal of Alloys and Compounds*, **2020**, 824, 153913	5.7	10
33	Hydrogel assisted synthesis of Li3V2(PO4)3 composite as high energy density and low-temperature stable secondary battery cathode. *Journal of Alloys and Compounds*, **2018**, 739, 837-847	5.7	10
32	Sulfophobic and Vacancy Design Enables Self-Cleaning Electrodes for Efficient Desulfurization and Concurrent Hydrogen Evolution with Low Energy Consumption. *Advanced Functional Materials*, **2021**, 31, 2101922	15.6	10
31	Data-informed discovery of hydrolytic nanozymes.. *Nature Communications*, **2022**, 13, 827	17.4	9
30	Engineering Two-Dimensional Metal-Organic Framework on Molecular Basis for Fast Li Conduction. *Nano Letters*, **2021**, 21, 5805-5812	11.5	9
29	A metal organic foam-derived multi-layered and porous copper sulfide scaffold as sulfur host with multiple shields for preventing shuttle effect in lithium-sulfur batteries. *Electrochimica Acta*, **2020**, 356, 136853	6.7	8
28	A novel wheel-confined composite as cathode in Li-S batteries with high capacity retention. *Journal of Alloys and Compounds*, **2019**, 776, 504-510	5.7	8
27	General Liquid-Driven Coaxial Flow Focusing Preparation of Novel Microcapsules for Rechargeable Magnesium Batteries. *Advanced Science*, **2021**, 8, 2002298	13.6	8
26	A novel tin hybrid nano-composite with double nets of carbon matrixes as a stable anode in lithium ion batteries. *Chemical Communications*, **2017**, 53, 13125-13128	5.8	7

25	A Lamellar Yolk-Shell Lithium-Sulfur Battery Cathode Displaying Ultralong Cycling Life, High Rate Performance, and Temperature Tolerance. *Advanced Science*, **2021**, 9, e2103517	13.6	7
24	A yolk-shell FeO@void@carbon nanochain as shuttle effect suppressive and volume-change accommodating sulfur host for long-life lithium-sulfur batteries. *Nanoscale*, **2021**, 13, 7744-7750	7.7	6
23	A Polysulfides-Confined All-in-One Porous Microcapsule Lithium-Sulfur Battery Cathode. *Small*, **2021**, 17, e2103051	11	6
22	A novel sulfur@void@hydrogel yolk-shell particle with a high sulfur content for volume-accommodable and polysulfide-adsorptive lithium-sulfur battery cathodes. *Nanotechnology* , **2020**, 31, 455402	3.4	5
21	Renewable Polysulfide Regulation by Versatile Films toward High-Loading Lithium-Sulfur Batteries. *ACS Applied Materials & Interfaces*, **2020**, 12, 47590-47598	9.5	5
20	Sb@SNC nanocomposite as long-cycle stable anode material for lithium ion batteries. *Journal of Alloys and Compounds*, **2020**, 814, 152161	5.7	5
19	Transferring Liquid Metal to form a Hybrid Solid Electrolyte via a Wettability-Tuning Technology for Lithium Metal Anodes.. *Advanced Materials*, **2022**, e2200181	24	4
18	Silicon Quantum Dots Induce Uniform Lithium Plating in a Sandwiched Metal Anode. *ChemElectroChem*, **2020**, 7, 2026-2032	4.3	3
17	ZIF-derived ZnO/Sb composite scaffolded on carbon framework for Ni-Zn batteries. *Journal of Colloid and Interface Science*, **2020**, 579, 823-831	9.3	3
16	Greener and higher conversion of esterification via interfacial photothermal catalysis. *Nature Sustainability*,	22.1	3
15	Synergistic Role of Eg Filling and AnionCation Hybridization in Enhancing the Oxygen Evolution Reaction Activity in Nickelates. *ACS Applied Energy Materials*,	6.1	3
14	CoSe2/MoS2 Heterostructures to Couple Polysulfide Adsorption and Catalysis in Lithium-Sulfur Batteries*Chinese Journal of Chemistry*, **2021**, 39, 1138-1144	4.9	3
13	A Self-Healing LithiumSulfur Battery Using Gel-Infilled Microcapsules. *ACS Applied Energy Materials*, **2021**, 4, 6749-6756	6.1	3
12	Self-reduction preparation of porous multi-walled ZnCo2O4 spheres as sulfur host for lithium-sulfur battery cathodes with long cycling life and stable rate-performance. *Journal of Electroanalytical Chemistry*, **2021**, 880, 114860	4.1	3
11	In Situ Formation of Polycyclic Aromatic Hydrocarbons as an Artificial Hybrid Layer for Lithium Metal Anodes.. *Nano Letters*, **2021**,	11.5	3
10	Three-Dimensionally Scaffolded Hydrogel@Sulfur Composite as a Binder-Free Polysulfides-Adsorptive Cathode for High-Performance Lithium-Sulfur Batteries. *Energy Technology* , **2019**, 7, 1801158	3.5	2
9	An artificial sea urchin with hollow spines: improved mechanical and electrochemical stability in high-capacity Li-Ge batteries. *Nanoscale*, **2020**, 12, 5812-5816	7.7	2
8	A novel ultrathin single-crystalline Bi2O3 nanosheet wrapped by reduced graphene oxide with improved electron transfer for Li storage. *Journal of Solid State Electrochemistry*, **2020**, 24, 2487-2497	2.6	2

7	A bee pupa-infilled honeycomb structure-inspired LiMnSiO cathode for high volumetric energy density secondary batteries. *Chemical Communications*, **2019**, 55, 3582-3585	5.8	2
6	A General Template-Induced Sulfuration Approach for Preparing Bifunctional Hollow Sulfides for High-Performance Al- and Li-ion Batteries. *Energy Technology*, **2021**, 9, 2000900	3.5	2
5	A novel nanosphere-in-nanotube iron phosphide Li-ion battery anode displaying a long cycle life, recoverable rate-performance, and temperature tolerance. *Nanoscale*, **2021**, 13, 15624-15630	7.7	2
4	Query expansion for VHR image detection **2011**,		1
3	Engineering a novel microcapsule of CuS core and SnS quantum dot/carbon nanotube shell as a Li-ion battery anode. *Chemical Communications*, **2021**, 57, 13397-13400	5.8	1
2	Novel Doughnutlike Graphene Quantum Dot-Decorated Composites for High-Performance Li–S Batteries Displaying Dual Immobilization Toward Polysulfides. *ACS Applied Energy Materials*, **2021**, 4, 10998-11003	6.1	1
1	Engineering Nanostructured Silicon and its Practical Applications in Lithium-Ion Batteries: A Critical Review. *Energy Technology*, **2021**, 9, 2100400	3.5	1