Jiayan Luo

List of Publications by Citations

89 papers	6,650 citations	43 h-index	81 g-index
99 ext. papers	8,084 ext. citations	15.2 avg, IF	6.42 L-index

#	Paper	IF	Citations
89	Effect of sheet morphology on the scalability of graphene-based ultracapacitors. *ACS Nano*, **2013**, 7, 1464-71	16.7	446
88	Compression and aggregation-resistant particles of crumpled soft sheets. *ACS Nano*, **2011**, 5, 8943-9	16.7	424
87	Crumpled Graphene-Encapsulated Si Nanoparticles for Lithium Ion Battery Anodes. *Journal of Physical Chemistry Letters*, **2012**, 3, 1824-9	6.4	419
86	Graphene oxide as surfactant sheets. *Pure and Applied Chemistry*, **2010**, 83, 95-110	2.1	326
85	Graphene oxide nanocolloids. *Journal of the American Chemical Society*, **2010**, 132, 17667-9	16.4	320
84	Self-Propagating Domino-like Reactions in Oxidized Graphite. *Advanced Functional Materials*, **2010**, 20, 2867-2873	15.6	271
83	Two-Dimensional Porous Carbon: Synthesis and Ion-Transport Properties. *Advanced Materials*, **2015** , 27, 5388-95	24	263
82	Crumpled Graphene Balls Stabilized Dendrite-free Lithium Metal Anodes. *Joule*, **2018**, 2, 184-193	27.8	241
81	MXene Aerogel Scaffolds for High-Rate Lithium Metal Anodes. *Angewandte Chemie - International Edition*, **2018**, 57, 15028-15033	16.4	194
80	Dendrites in Lithium Metal Anodes: Suppression, Regulation, and Elimination. *Accounts of Chemical Research*, **2019**, 52, 3223-3232	24.3	185
79	A Metal-Free Supercapacitor Electrode Material with a Record High Volumetric Capacitance over 800 F cm(-3). *Advanced Materials*, **2015**, 27, 8082-7	24	182
78	Porous Al Current Collector for Dendrite-Free Na Metal Anodes. *Nano Letters*, **2017**, 17, 5862-5868	11.5	179
77	Material processing of chemically modified graphene: some challenges and solutions. *Accounts of Chemical Research*, **2013**, 46, 2225-34	24.3	141
76	Processable and Moldable Sodium-Metal Anodes. *Angewandte Chemie - International Edition*, **2017**, 56, 11921-11926	16.4	141
75	Simultaneously Enhancing the Thermal Stability, Mechanical Modulus, and Electrochemical Performance of Solid Polymer Electrolytes by Incorporating 2D Sheets. *Advanced Energy Materials*, **2018**, 8, 1800866	21.8	132
74	Biomass Organs Control the Porosity of Their Pyrolyzed Carbon. *Advanced Functional Materials*, **2017**, 27, 1604687	15.6	113
73	Incorporating Ionic Paths into 3D Conducting Scaffolds for High Volumetric and Areal Capacity, High Rate Lithium-Metal Anodes. *Advanced Materials*, **2018**, 30, e1801328	24	112

72	Controlling Nucleation in Lithium Metal Anodes. *Small*, **2018**, 14, e1801423	11	110
71	Multistimuli Responsive Core-Shell Nanoplatform Constructed from Fe O @MOF Equipped with Pillar[6]arene Nanovalves. *Small*, **2018**, 14, e1704440	11	109
70	High-Performance Solid Polymer Electrolytes Filled with Vertically Aligned 2D Materials. *Advanced Functional Materials*, **2019**, 29, 1900648	15.6	96
69	Bending-Tolerant Anodes for Lithium-Metal Batteries. *Advanced Materials*, **2018**, 30, 1703891	24	95
68	Horizontal Centripetal Plating in the Patterned Voids of Li/Graphene Composites for Stable Lithium-Metal Anodes. *CheM*, **2018**, 4, 2192-2200	16.2	90
67	Aqueous Stable TiC MXene Membrane with Fast and Photoswitchable Nanofluidic Transport. *ACS Nano*, **2018**, 12, 12464-12471	16.7	88
66	Controlling Li Ion Flux through Materials Innovation for Dendrite-Free Lithium Metal Anodes. *Advanced Functional Materials*, **2019**, 29, 1905940	15.6	80
65	In situ built interphase with high interface energy and fast kinetics for high performance Zn metal anodes. *Energy and Environmental Science*, **2021**, 14, 3609-3620	35.4	79
64	Dense Graphene Monolith for High Volumetric Energy Density Li^{+} Batteries. *Advanced Energy Materials*, **2018**, 8, 1703438	21.8	78
63	A Safe Polyzwitterionic Hydrogel Electrolyte for Long-Life Quasi-Solid State Zinc Metal Batteries. *Advanced Functional Materials*, **2020**, 30, 2001317	15.6	72
62	Dendrite-free Li metal anode by lowering deposition interface energy with Cu99Zn alloy coating. *Energy Storage Materials*, **2018**, 14, 143-148	19.4	72
61	2D Materials for Lithium/Sodium Metal Anodes. *Advanced Energy Materials*, **2018**, 8, 1802833	21.8	72
60	Dynamics of electrochemical lithiation/delithiation of graphene-encapsulated silicon nanoparticles studied by in-situ TEM. *Scientific Reports*, **2014**, 4, 3863	4.9	70
59	Bio-Inspired Stable Lithium-Metal Anodes by Co-depositing Lithium with a 2D Vermiculite Shuttle. *Angewandte Chemie - International Edition*, **2019**, 58, 6200-6206	16.4	65
58	Revisiting the Electroplating Process for Lithium-Metal Anodes for Lithium-Metal Batteries. *Angewandte Chemie - International Edition*, **2020**, 59, 6665-6674	16.4	62
57	Bulk Nanostructured Materials Design for Fracture-Resistant Lithium Metal Anodes. *Advanced Materials*, **2019**, 31, e1807585	24	60
56	Mixed Ion and Electron-Conducting Scaffolds for High-Rate Lithium Metal Anodes. *Advanced Energy Materials*, **2019**, 9, 1900193	21.8	56
55	Ambient oxidation of TiC MXene initialized by atomic defects. *Nanoscale*, **2019**, 11, 23330-23337	7.7	55

54	Building an Interfacial Framework: Li/Garnet Interface Stabilization through a Cu6Sn5 Layer. *ACS Energy Letters*, **2019**, 4, 1725-1731	20.1	52
53	Processable and Moldable Sodium-Metal Anodes. *Angewandte Chemie*, **2017**, 129, 12083-12088	3.6	52
52	Eliminating Tip Dendrite Growth by Lorentz Force for Stable Lithium Metal Anodes. *Advanced Functional Materials*, **2019**, 29, 1902630	15.6	51
51	MXene-Based Mesoporous Nanosheets Toward Superior Lithium Ion Conductors. *Advanced Energy Materials*, **2020**, 10, 1903534	21.8	50
50	Enabling Mg metal anodes rechargeable in conventional electrolytes by fast ionic transport interphase. *National Science Review*, **2020**, 7, 333-341	10.8	49
49	Interfacial Incompatibility and Internal Stresses in All-Solid-State Lithium Ion Batteries. *Advanced Energy Materials*, **2019**, 9, 1901810	21.8	46
48	Aerosol-assisted extraction of silicon nanoparticles from wafer slicing waste for lithium ion batteries. *Scientific Reports*, **2015**, 5, 9431	4.9	43
47	Stabilizing zinc metal anodes by artificial solid electrolyte interphase through a surface ion-exchanging strategy. *Chemical Engineering Journal*, **2020**, 396, 125363	14.7	43
46	One-Step Synthesis of Pt-Nanoparticles-Laden Graphene Crumples by Aerosol Spray Pyrolysis and Evaluation of Their Electrocatalytic Activity. *Aerosol Science and Technology*, **2013**, 47, 93-98	3.4	43
45	Bulk Nanostructured Materials Based on Two-Dimensional Building Blocks: A Roadmap. *ACS Nano*, **2015**, 9, 9432-6	16.7	40
44	Rechargeable Mg metal batteries enabled by a protection layer formed in vivo. *Energy Storage Materials*, **2020**, 26, 408-413	19.4	38
43	The Features and Progress of Electrolyte for Potassium Ion Batteries. *Small*, **2020**, 16, e2004096	11	37
42	MXene Aerogel Scaffolds for High-Rate Lithium Metal Anodes. *Angewandte Chemie*, **2018**, 130, 15248-15253	3.6	37
41	Stabilizing Solid Electrolyte Interphases on Both Anode and Cathode for High Areal Capacity, High-Voltage Lithium Metal Batteries with High Li Utilization and Lean Electrolyte. *Advanced Functional Materials*, **2020**, 30, 2002824	15.6	36
40	Graphene oxide based conductive glue as a binder for ultracapacitor electrodes. *Journal of Materials Chemistry*, **2012**, 22, 12993		36
39	A corrosion-resistant current collector for lithium metal anodes. *Energy Storage Materials*, **2019**, 18, 199-204	19.4	33
38	Dual electronic-ionic conductivity of pseudo-capacitive filler enables high volumetric capacitance from dense graphene micro-particles. *Nano Energy*, **2017**, 36, 349-355	17.1	32
37	Redox mediators as charge agents for changing electrochemical reactions. *Chemical Society Reviews*, **2020**, 49, 7454-7478	58.5	30

36	Challenges and Opportunities for Multivalent Metal Anodes in Rechargeable Batteries. *Advanced Functional Materials*, **2020**, 30, 2004187	15.6	30
35	Fast and all-weather cleanup of viscous crude-oil spills with Ti3C2TX MXene wrapped sponge. *Journal of Materials Chemistry A*, **2020**, 8, 20162-20167	13	30
34	Cations and anions regulation through zwitterionic gel electrolytes for stable lithium metal anodes. *Energy Storage Materials*, **2020**, 24, 574-578	19.4	27
33	High Energy Density Solid State Lithium Metal Batteries Enabled by Sub-5 μm Solid Polymer Electrolytes. *Advanced Materials*, **2021**, 33, e2105329	24	26
32	ZnO nanoconfined 3D porous carbon composite microspheres to stabilize lithium nucleation/growth for high-performance lithium metal anodes. *Journal of Materials Chemistry A*, **2019**, 7, 19442-19452	13	25
31	Long Cycling Life Solid-State Li Metal Batteries with Stress Self-Adapted Li/Garnet Interface. *Nano Letters*, **2020**, 20, 2871-2878	11.5	24
30	Recent Progress of Electrolyte Design for Lithium Metal Batteries. *Batteries and Supercaps*, **2020**, 3, 331-345	5.6	23
29	Electricity generation based on a photothermally driven Ti3C2Tx MXene nanofluidic water pump. *Nano Energy*, **2020**, 70, 104481	17.1	22
28	Graphene Oxide Sheets in Solvents: To Crumple or Not To Crumple?. *ACS Omega*, **2017**, 2, 8005-8009	3.9	22
27	Composite sodium metal anodes for practical applications. *Journal of Materials Chemistry A*, **2020**, 8, 15399-15416	13	20
26	Robust Production of Ultrahigh Surface Area Carbon Sheets for Energy Storage. *Small*, **2018**, 14, e1800133	13	16
25	A high rate and long cycling life lithium metal anode with a self-repairing alloy coating. *Journal of Materials Chemistry A*, **2020**, 8, 17415-17419	13	15
24	Revisiting the Electroplating Process for Lithium-Metal Anodes for Lithium-Metal Batteries. *Angewandte Chemie*, **2020**, 132, 6730-6739	3.6	13
23	Stacked Lamellar Matrix Enabling Regulated Deposition and Superior Thermo-Kinetics for Advanced Aqueous Zn-Ion System under Practical Conditions. *Advanced Functional Materials*,2107397	15.6	11
22	Supercapacitors: A Metal-Free Supercapacitor Electrode Material with a Record High Volumetric Capacitance over 800 F cm⁻³ (Adv. Mater. 48/2015). *Advanced Materials*, **2015**, 27, 7898-7898	24	8
21	A bio-inspired transpiration ion pump based on MXene. *Materials Chemistry Frontiers*, **2020**, 4, 3361-3367	7.8	7
20	Bio-Inspired Stable Lithium-Metal Anodes by Co-depositing Lithium with a 2D Vermiculite Shuttle. *Angewandte Chemie*, **2019**, 131, 6266-6272	3.6	5
19	Synergistic Effects of Salt Concentration and Working Temperature towards Dendrite-Free Lithium Deposition. *Research*, **2019**, 2019, 7481319	7.8	5

18	Crumpled graphene-encapsulated sulfur for lithium-sulfur batteries.. *RSC Advances*, **2018**, 8, 18502-18507	3.7	5
17	Biomass Carbonization: Biomass Organs Control the Porosity of Their Pyrolyzed Carbon (Adv. Funct. Mater. 3/2017). *Advanced Functional Materials*, **2017**, 27,	15.6	4
16	Reversible Photodriven Droplet Motion on TiC MXene Film for Diverse Liquids. *ACS Applied Materials & Interfaces*, **2020**, 12, 19194-19200	9.5	4
15	Carbon: Two-Dimensional Porous Carbon: Synthesis and Ion-Transport Properties (Adv. Mater. 36/2015). *Advanced Materials*, **2015**, 27, 5254-5254	24	4
14	Nonreactive Electrolyte Additives for Stable Lithium Metal Anodes. *ACS Applied Energy Materials*, **2022**, 5, 3-13	6.1	4
13	Lithium-Metal Anodes: Incorporating Ionic Paths into 3D Conducting Scaffolds for High Volumetric and Areal Capacity, High Rate Lithium-Metal Anodes (Adv. Mater. 33/2018). *Advanced Materials*, **2018**, 30, 1870248	24	4
12	In Situ Cross-Linked Plastic Crystal Electrolytes for Wide-Temperature and High-Energy-Density Lithium Metal Batteries. *Advanced Functional Materials*,2201861	15.6	4
11	Skin care design for lithium metal protection with cosmetics introduction. *Journal of Energy Chemistry*, **2020**, 48, 383-389	12	3
10	Bulk Nanostructured Li: Bulk Nanostructured Materials Design for Fracture-Resistant Lithium Metal Anodes (Adv. Mater. 15/2019). *Advanced Materials*, **2019**, 31, 1970109	24	2
9	Lithium-Metal Anodes: Bending-Tolerant Anodes for Lithium-Metal Batteries (Adv. Mater. 1/2018). *Advanced Materials*, **2018**, 30, 1870005	24	2
8	Graphene Oxide as a Two-dimensional Surfactant. *Materials Research Society Symposia Proceedings*, **2011**, 1344, 1		2
7	Frontispiece: MXene Aerogel Scaffolds for High-Rate Lithium Metal Anodes. *Angewandte Chemie - International Edition*, **2018**, 57,	16.4	2
6	Vertically Heterostructured Solid Electrolytes for Lithium Metal Batteries. *Advanced Functional Materials*,2201465	15.6	2
5	Self-Propagating Domino-like Reactions in Oxidized Graphite. *Advanced Functional Materials*, **2010**, 20, n/a-n/a	15.6	1
4	Frontispiz: MXene Aerogel Scaffolds for High-Rate Lithium Metal Anodes. *Angewandte Chemie*, **2018**, 130,	3.6	1
3	Recent developments and progress of halogen elements in enhancing the performance of all-solid-state lithium metal batteries. *Energy Storage Materials*, **2022**, 49, 19-57	19.4	1
2	Revealing the solid electrolyte interface on calcium metal anodes. *Journal of Energy Chemistry*, **2022**, 70, 174-190	12	0
1	Isotropic to Anisotropic Transition Observed in Si Nanoparticles Lithiation by in situ TEM. *Microscopy and Microanalysis*, **2014**, 20, 1652-1653	0.5	