

# Boyang Liu

## List of Publications by Year in descending order

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Version: 2024-02-01

52  
papers

10,943  
citations

53794

45  
h-index

175258

52  
g-index

52  
all docs

52  
docs citations

52  
times ranked

10370  
citing authors

#	ARTICLE	IF	CITATIONS
1	Negating interfacial impedance in garnet-based solid-state Li metal batteries. <i>Nature Materials</i> , 2017, 16, 572-579.	27.5	1,583
2	Toward garnet electrolyte-based Li metal batteries: An ultrathin, highly effective, artificial solid-state electrolyte/metallic Li interface. <i>Science Advances</i> , 2017, 3, e1601659.	10.3	647
3	Conformal, Nanoscale ZnO Surface Modification of Garnet-Based Solid-State Electrolyte for Lithium Metal Anodes. <i>Nano Letters</i> , 2017, 17, 565-571.	9.1	556
4	Transition from Superlithiophobicity to Superlithiophilicity of Garnet Solid-State Electrolyte. <i>Journal of the American Chemical Society</i> , 2016, 138, 12258-12262.	13.7	548
5	3D-Printed, All-in-One Evaporator for High-Efficiency Solar Steam Generation under 1 Sun Illumination. <i>Advanced Materials</i> , 2017, 29, 1700981.	21.0	511
6	Three-dimensional bilayer garnet solid electrolyte based high energy density lithium metal-sulfur batteries. <i>Energy and Environmental Science</i> , 2017, 10, 1568-1575.	30.8	499
7	Mesoporous, Three-Dimensional Wood Membrane Decorated with Nanoparticles for Highly Efficient Water Treatment. <i>ACS Nano</i> , 2017, 11, 4275-4282.	14.6	392
8	Highly Compressible, Anisotropic Aerogel with Aligned Cellulose Nanofibers. <i>ACS Nano</i> , 2018, 12, 140-147.	14.6	364
9	New Energy Storage Option: Toward ZnCo <sub>2</sub> O <sub>4</sub> Nanorods/Nickel Foam Architectures for High-Performance Supercapacitors. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 10011-10017.	8.0	362
10	Three-Dimensional Printed Thermal Regulation Textiles. <i>ACS Nano</i> , 2017, 11, 11513-11520.	14.6	261
11	Continuous plating/stripping behavior of solid-state lithium metal anode in a 3D ion-conductive framework. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 3770-3775.	7.1	250
12	Garnet Solid Electrolyte Protected Li-Metal Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 18809-18815.	8.0	247
13	Encapsulation of Metallic Na in an Electrically Conductive Host with Porous Channels as a Highly Stable Na Metal Anode. <i>Nano Letters</i> , 2017, 17, 3792-3797.	9.1	243
14	Extrusion-Based 3D Printing of Hierarchically Porous Advanced Battery Electrodes. <i>Advanced Materials</i> , 2018, 30, e1705651.	21.0	241
15	Transient Behavior of the Metal Interface in Lithium Metal-Garnet Batteries. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 14942-14947.	13.8	227
16	Visualizing plating-induced cracking in lithium-anode solid-electrolyte cells. <i>Nature Materials</i> , 2021, 20, 1121-1129.	27.5	221
17	A carbon-based 3D current collector with surface protection for Li metal anode. <i>Nano Research</i> , 2017, 10, 1356-1365.	10.4	200
18	3D Wettable Framework for Dendrite-Free Alkali Metal Anodes. <i>Advanced Energy Materials</i> , 2018, 8, 1800635.	19.5	196

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19	Flexible, Scalable, and Highly Conductive Garnet-Polymer Solid Electrolyte Templated by Bacterial Cellulose. <i>Advanced Energy Materials</i> , 2018, 8, 1703474.	19.5	189
20	An Electron/Ion Dual-Conductive Alloy Framework for High-Rate and High-Capacity Solid-State Lithium-Metal Batteries. <i>Advanced Materials</i> , 2019, 31, e1804815.	21.0	188
21	Universal Soldering of Lithium and Sodium Alloys on Various Substrates for Batteries. <i>Advanced Energy Materials</i> , 2018, 8, 1701963.	19.5	186
22	Conductive Cellulose Nanofiber Enabled Thick Electrode for Compact and Flexible Energy Storage Devices. <i>Advanced Energy Materials</i> , 2018, 8, 1802398.	19.5	163
23	Hierarchically Porous, Ultrathick, "Breathable" Wood-Derived Cathode for Lithium-Oxygen Batteries. <i>Advanced Energy Materials</i> , 2018, 8, 1701203.	19.5	161
24	<i>In Situ</i> Neutron Depth Profiling of Lithium Metal-Garnet Interfaces for Solid State Batteries. <i>Journal of the American Chemical Society</i> , 2017, 139, 14257-14264.	13.7	154
25	Enabling High-Areal-Capacity Lithium-Sulfur Batteries: Designing Anisotropic and Low-Tortuosity Porous Architectures. <i>ACS Nano</i> , 2017, 11, 4801-4807.	14.6	151
26	FeS <sub>2</sub> Nanoparticles Embedded in Reduced Graphene Oxide toward Robust, High-Performance Electrocatalysts. <i>Advanced Energy Materials</i> , 2017, 7, 1700482.	19.5	144
27	Superflexible Wood. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 23520-23527.	8.0	141
28	3D-Printed Graphene Oxide Framework with Thermal Shock Synthesized Nanoparticles for Li <sub>2</sub> CO <sub>3</sub> Batteries. <i>Advanced Functional Materials</i> , 2018, 28, 1805899.	14.9	135
29	Transient, <i>in situ</i> synthesis of ultrafine ruthenium nanoparticles for a high-rate Li <sub>2</sub> CO <sub>3</sub> battery. <i>Energy and Environmental Science</i> , 2019, 12, 1100-1107.	30.8	129
30	From Wood to Textiles: Top-Down Assembly of Aligned Cellulose Nanofibers. <i>Advanced Materials</i> , 2018, 30, e1801347.	21.0	121
31	Nature-Inspired Tri-Pathway Design Enabling High-Performance Flexible Li <sub>2</sub> O <sub>2</sub> Batteries. <i>Advanced Energy Materials</i> , 2019, 9, 1802964.	19.5	121
32	Flexible lithium <sub>2</sub> CO <sub>3</sub> battery with ultrahigh capacity and stable cycling. <i>Energy and Environmental Science</i> , 2018, 11, 3231-3237.	30.8	117
33	3D lithium metal anodes hosted in asymmetric garnet frameworks toward high energy density batteries. <i>Energy Storage Materials</i> , 2018, 14, 376-382.	18.0	114
34	Advanced rechargeable lithium-ion batteries based on bendable ZnCo <sub>2</sub> O <sub>4</sub> -urchins-on-carbon-fibers electrodes. <i>Nano Research</i> , 2013, 6, 525-534.	10.4	109
35	Architecting a Floatable, Durable, and Scalable Steam Generator: Hydrophobic/Hydrophilic Bifunctional Structure for Solar Evaporation Enhancement. <i>Small Methods</i> , 2019, 3, 1800176.	8.6	97
36	3D printed separator for the thermal management of high-performance Li metal anodes. <i>Energy Storage Materials</i> , 2018, 12, 197-203.	18.0	95

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37	Textile Inspired Lithium-Oxygen Battery Cathode with Decoupled Oxygen and Electrolyte Pathways. <i>Advanced Materials</i> , 2018, 30, 1704907.	21.0	92
38	Rapid Thermal Annealing of Cathode-Garnet Interface toward High-Temperature Solid State Batteries. <i>Nano Letters</i> , 2017, 17, 4917-4923.	9.1	89
39	Achieving Ultrahigh-Rate Planar and Dendrite-Free Zinc Electroplating for Aqueous Zinc Battery Anodes. <i>Advanced Materials</i> , 2022, 34, e2202552.	21.0	88
40	Millisecond synthesis of CoS nanoparticles for highly efficient overall water splitting. <i>Nano Research</i> , 2019, 12, 2259-2267.	10.4	85
41	In Situ "Chainmail Catalyst" Assembly in Low-Tortuosity, Hierarchical Carbon Frameworks for Efficient and Stable Hydrogen Generation. <i>Advanced Energy Materials</i> , 2018, 8, 1801289.	19.5	79
42	Garnet/polymer hybrid ion-conducting protective layer for stable lithium metal anode. <i>Nano Research</i> , 2017, 10, 4256-4265.	10.4	76
43	Stabilizing the Garnet Solid-Electrolyte/Polysulfide Interface in Li-S Batteries. <i>Chemistry of Materials</i> , 2017, 29, 8037-8041.	6.7	73
44	Revealing the Role of Fluoride-Rich Battery Electrode Interphases by Operando Transmission Electron Microscopy. <i>Advanced Energy Materials</i> , 2021, 11, 2003118.	19.5	54
45	Mixed ionic-electronic conductor enabled effective cathode-electrolyte interface in all solid state batteries. <i>Nano Energy</i> , 2018, 50, 393-400.	16.0	52
46	Compressible, Dense, Three-Dimensional Holey Graphene Monolithic Architecture. <i>ACS Nano</i> , 2017, 11, 3189-3197.	14.6	44
47	Current-Density-Dependent Electroplating in Ca Electrolytes: From Globules to Dendrites. <i>ACS Energy Letters</i> , 2020, 5, 2283-2290.	17.4	44
48	Universal, In Situ Transformation of Bulky Compounds into Nanoscale Catalysts by High-Temperature Pulse. <i>Nano Letters</i> , 2017, 17, 5817-5822.	9.1	29
49	Fly-through synthesis of nanoparticles on textile and paper substrates. <i>Nanoscale</i> , 2019, 11, 6174-6181.	5.6	25
50	Design of High Capacity Dissoluble Electrodes for All Transient Batteries. <i>Advanced Functional Materials</i> , 2017, 27, 1605724.	14.9	21
51	Necklace-Like Silicon Carbide and Carbon Nanocomposites Formed by Steady Joule Heating. <i>Small Methods</i> , 2018, 2, 1700371.	8.6	17
52	Transient Behavior of the Metal Interface in Lithium Metal-Garnet Batteries. <i>Angewandte Chemie</i> , 2017, 129, 15138-15143.	2.0	12