

# Kai Liu

## List of Publications by Year in descending order

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Version: 2024-02-01

40  
papers

8,490  
citations

147801

31  
h-index

289244

40  
g-index

40  
all docs

40  
docs citations

40  
times ranked

9052  
citing authors

#	ARTICLE	IF	CITATIONS
1	Materials for lithium-ion battery safety. <i>Science Advances</i> , 2018, 4, eaas9820.	10.3	958
2	High Ionic Conductivity of Composite Solid Polymer Electrolyte via In Situ Synthesis of Monodispersed SiO <sub>2</sub> Nanospheres in Poly(ethylene oxide). <i>Nano Letters</i> , 2016, 16, 459-465.	9.1	791
3	Ultrathin, flexible, solid polymer composite electrolyte enabled with aligned nanoporous host for lithium batteries. <i>Nature Nanotechnology</i> , 2019, 14, 705-711.	31.5	773
4	An Artificial Solid Electrolyte Interphase with High Li <sup>+</sup> Ion Conductivity, Mechanical Strength, and Flexibility for Stable Lithium Metal Anodes. <i>Advanced Materials</i> , 2017, 29, 1605531.	21.0	747
5	Lithium Metal Anodes with an Adaptive "Solid-Liquid" Interfacial Protective Layer. <i>Journal of the American Chemical Society</i> , 2017, 139, 4815-4820.	13.7	460
6	Conformal Lithium Fluoride Protection Layer on Three-Dimensional Lithium by Nonhazardous Gaseous Reagent Freon. <i>Nano Letters</i> , 2017, 17, 3731-3737.	9.1	377
7	Air-stable and freestanding lithium alloy/graphene foil as an alternative to lithium metal anodes. <i>Nature Nanotechnology</i> , 2017, 12, 993-999.	31.5	376
8	Efficient electrocatalytic CO <sub>2</sub> reduction on a three-phase interface. <i>Nature Catalysis</i> , 2018, 1, 592-600.	34.4	336
9	Roll-to-Roll Transfer of Electrospun Nanofiber Film for High-Efficiency Transparent Air Filter. <i>Nano Letters</i> , 2016, 16, 1270-1275.	9.1	289
10	25th Anniversary Article: Reversible and Adaptive Functional Supramolecular Materials: "Noncovalent Interaction" Matters. <i>Advanced Materials</i> , 2013, 25, 5530-5548.	21.0	275
11	Vertically Aligned and Continuous Nanoscale Ceramic-Polymer Interfaces in Composite Solid Polymer Electrolytes for Enhanced Ionic Conductivity. <i>Nano Letters</i> , 2018, 18, 3829-3838.	9.1	268
12	Design of Complex Nanomaterials for Energy Storage: Past Success and Future Opportunity. <i>Accounts of Chemical Research</i> , 2017, 50, 2895-2905.	15.6	258
13	Electrospun core-shell microfiber separator with thermal-triggered flame-retardant properties for lithium-ion batteries. <i>Science Advances</i> , 2017, 3, e1601978.	10.3	245
14	Extending the Life of Lithium-Based Rechargeable Batteries by Reaction of Lithium Dendrites with a Novel Silica Nanoparticle Sandwiched Separator. <i>Advanced Materials</i> , 2017, 29, 1603987.	21.0	202
15	A Dynamic, Electrolyte-Blocking, and Single-Ion-Conductive Network for Stable Lithium-Metal Anodes. <i>Joule</i> , 2019, 3, 2761-2776.	24.0	176
16	A Fireproof, Lightweight, Polymer-Polymer Solid-State Electrolyte for Safe Lithium Batteries. <i>Nano Letters</i> , 2020, 20, 1686-1692.	9.1	175
17	Rational design on separators and liquid electrolytes for safer lithium-ion batteries. <i>Journal of Energy Chemistry</i> , 2020, 43, 58-70.	12.9	170
18	Ultralight and fire-extinguishing current collectors for high-energy and high-safety lithium-ion batteries. <i>Nature Energy</i> , 2020, 5, 786-793.	39.5	168

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19	Core-Shell Nanoparticle Coating as an Interfacial Layer for Dendrite-Free Lithium Metal Anodes. ACS Central Science, 2017, 3, 135-140.	11.3	162
20	Polymers in Lithium-Ion and Lithium Metal Batteries. Advanced Energy Materials, 2021, 11, 2003239.	19.5	160
21	An Aqueous Inorganic Polymer Binder for High Performance Lithium-Sulfur Batteries with Flame-Retardant Properties. ACS Central Science, 2018, 4, 260-267.	11.3	147
22	Synergistic Effect of F <sup>+</sup> Doping and LiF Coating on Improving the High-Voltage Cycling Stability and Rate Capacity of LiNi <sub>0.5</sub> Co <sub>0.2</sub> Mn <sub>0.3</sub> O <sub>2</sub> Cathode Materials for Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2018, 10, 34153-34162.	8.0	129
23	Engineering a passivating electric double layer for high performance lithium metal batteries. Nature Communications, 2022, 13, 2029.	12.8	113
24	Supercooled liquid sulfur maintained in three-dimensional current collector for high-performance Li-S batteries. Science Advances, 2020, 6, eaay5098.	10.3	95
25	Biomimetic Impact Protective Supramolecular Polymeric Materials Enabled by Quadruple H-Bonding. Journal of the American Chemical Society, 2021, 143, 1162-1170.	13.7	85
26	An Interconnected Channel-Like Framework as Host for Lithium Metal Composite Anodes. Advanced Energy Materials, 2019, 9, 1802720.	19.5	83
27	A review of fire-extinguishing agent on suppressing lithium-ion batteries fire. Journal of Energy Chemistry, 2021, 62, 262-280.	12.9	82
28	Core-Shell Nanofibrous Materials with High Particulate Matter Removal Efficiencies and Thermally Triggered Flame Retardant Properties. ACS Central Science, 2018, 4, 894-898.	11.3	73
29	Reactivation of dead sulfide species in lithium polysulfide flow battery for grid scale energy storage. Nature Communications, 2017, 8, 462.	12.8	48
30	A thermoresponsive composite separator loaded with paraffin@SiO <sub>2</sub> microparticles for safe and stable lithium batteries. Journal of Energy Chemistry, 2021, 62, 423-430.	12.9	36
31	Rationally Designed Fluorinated Amide Additive Enables the Stable Operation of Lithium Metal Batteries by Regulating the Interfacial Chemistry. Nano Letters, 2022, 22, 5936-5943.	9.1	36
32	Anisotropic anion exchange membranes with extremely high water uptake for water electrolysis and fuel cells. Journal of Materials Chemistry A, 2021, 9, 23485-23496.	10.3	33
33	Application of thermal mechanism to evaluate the effectiveness of the extinguishment of CH <sub>4</sub> /air cup-burner flame by water mist with additives. International Journal of Hydrogen Energy, 2016, 41, 15078-15088.	7.1	29
34	Regulating the growth of lithium dendrite by coating an ultra-thin layer of gold on separator for improving the fast-charging ability of graphite anode. Journal of Energy Chemistry, 2022, 67, 467-473.	12.9	29
35	Supramolecular flame-retardant electrolyte enables safe and stable cycling of lithium-ion batteries. Energy Storage Materials, 2022, 45, 182-190.	18.0	25
36	Performance evaluation of water mist with additives in suppressing cooking oil fires based on temperature analysis. Applied Thermal Engineering, 2016, 102, 1069-1074.	6.0	20

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37	Cooling characteristics of cooking oil using water mist during fire extinguishment. <i>Applied Thermal Engineering</i> , 2016, 107, 863-869.	6.0	19
38	Nanoemulsion-Coated Ni-Fe Hydroxide Self-Supported Electrode as an Air-Breathing Cathode for High-Performance Zinc-Air Batteries. <i>Nano Letters</i> , 2022, 22, 4535-4543.	9.1	16
39	Progress on High Voltage PEO-based Polymer Solid Electrolytes in Lithium Batteries. <i>Chemical Research in Chinese Universities</i> , 2022, 38, 735-743.	2.6	13
40	Lithium Bromide-Induced Organic-Rich Cathode/Electrolyte Interphase for High-Voltage and Flame-Retardant All-Solid-State Lithium Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 24469-24479.	8.0	13