Feng Lin

List of Publications by Citations

100 papers	5,337 citations	36 h-index	72 g-index
109 ext. papers	6,601 ext. citations	14.4 avg, IF	5.9 L-index

#	Paper	IF	Citations
100	Surface reconstruction and chemical evolution of stoichiometric layered cathode materials for lithium-ion batteries. *Nature Communications*, **2014**, 5, 3529	17.4	860
99	A review of Ni-based layered oxides for rechargeable Li-ion batteries. *Journal of Materials Chemistry A*, **2017**, 5, 874-901	13	303
98	Synchrotron X-ray Analytical Techniques for Studying Materials Electrochemistry in Rechargeable Batteries. *Chemical Reviews*, **2017**, 117, 13123-13186	68.1	291
97	Solution-Processable Glass LiI-Li4 SnS4 Superionic Conductors for All-Solid-State Li-Ion Batteries. *Advanced Materials*, **2016**, 28, 1874-83	24	214
96	Metal segregation in hierarchically structured cathode materials for high-energy lithium batteries. *Nature Energy*, **2016**, 1,	62.3	179
95	Oxygen Release Induced Chemomechanical Breakdown of Layered Cathode Materials. *Nano Letters* , **2018**, 18, 3241-3249	11.5	163
94	Well-Dispersed Nickel- and Zinc-Tailored Electronic Structure of a Transition Metal Oxide for Highly Active Alkaline Hydrogen Evolution Reaction. *Advanced Materials*, **2019**, 31, e1807771	24	149
93	Phase evolution for conversion reaction electrodes in lithium-ion batteries. *Nature Communications*, **2014**, 5, 3358	17.4	146
92	Profiling the nanoscale gradient in stoichiometric layered cathode particles for lithium-ion batteries. *Energy and Environmental Science*, **2014**, 7, 3077	35.4	133
91	High-Voltage Charging-Induced Strain, Heterogeneity, and Micro-Cracks in Secondary Particles of a Nickel-Rich Layered Cathode Material. *Advanced Functional Materials*, **2019**, 29, 1900247	15.6	132
90	Electrochemical Characteristics of Layered Transition Metal Oxide Cathode Materials for Lithium Ion Batteries: Surface, Bulk Behavior, and Thermal Properties. *Accounts of Chemical Research*, **2018**, 51, 89-96	24.3	128
89	A spongy nickel-organic CO reduction photocatalyst for nearly 100% selective CO production. *Science Advances*, **2017**, 3, e1700921	14.3	124
88	Fully Oxidized Ni□e Layered Double Hydroxide with 100% Exposed Active Sites for Catalyzing Oxygen Evolution Reaction. *ACS Catalysis*, **2019**, 9, 6027-6032	13.1	112
87	Quantification of Heterogeneous Degradation in Li-Ion Batteries. *Advanced Energy Materials*, **2019**, 9, 1900674	21.8	111
86	Sodiation Kinetics of Metal Oxide Conversion Electrodes: A Comparative Study with Lithiation. *Nano Letters*, **2015**, 15, 5755-63	11.5	100
85	Hole doping in Al-containing nickel oxide materials to improve electrochromic performance. *ACS Applied Materials & Interfaces*, **2013**, 5, 301-9	9.5	93
84	Chemomechanical behaviors of layered cathode materials in alkali metal ion batteries. *Journal of Materials Chemistry A*, **2018**, 6, 21859-21884	13	92

83	Chemical and structural stability of lithium-ion battery electrode materials under electron beam. *Scientific Reports*, **2014**, 4, 5694	4.9	86
82	Machine-learning-revealed statistics of the particle-carbon/binder detachment in lithium-ion battery cathodes. *Nature Communications*, **2020**, 11, 2310	17.4	75
81	Charge distribution guided by grain crystallographic orientations in polycrystalline battery materials. *Nature Communications*, **2020**, 11, 83	17.4	75
80	Phase segregation reversibility in mixed-metal hydroxide water oxidation catalysts. *Nature Catalysis*, **2020**, 3, 743-753	36.5	71
79	In situ crystallization of high performing WO3-based electrochromic materials and the importance for durability and switching kinetics. *Journal of Materials Chemistry*, **2012**, 22, 16817		70
78	Origin of electrochromism in high-performing nanocomposite nickel oxide. *ACS Applied Materials & Interfaces*, **2013**, 5, 3643-9	9.5	67
77	Poly(acrylic acid) Bridged Gadolinium Metal-Organic Framework-Gold Nanoparticle Composites as Contrast Agents for Computed Tomography and Magnetic Resonance Bimodal Imaging. *ACS Applied Materials & Interfaces*, **2015**, 7, 17765-75	9.5	64
76	Computational and Experimental Investigation of Ti Substitution in Li1(NixMnxCo1-2x-yTiy)O2 for Lithium Ion Batteries. *Journal of Physical Chemistry Letters*, **2014**, 5, 3649-55	6.4	64
75	Deciphering the CathodeElectrolyte Interfacial Chemistry in Sodium Layered Cathode Materials. *Advanced Energy Materials*, **2018**, 8, 1801975	21.8	64
74	Spontaneous incorporation of gold in palladium-based ternary nanoparticles makes durable electrocatalysts for oxygen reduction reaction. *Nature Communications*, **2016**, 7, 11941	17.4	58
73	Zinc-Blende CdS Nanocubes with Coordinated Facets for Photocatalytic Water Splitting. *ACS Catalysis*, **2017**, 7, 1470-1477	13.1	56
72	Dopant Distribution in Co-Free High-Energy Layered Cathode Materials. *Chemistry of Materials*, **2019**, 31, 9769-9776	9.6	54
71	Elucidation of the surface characteristics and electrochemistry of high-performance LiNiO2. *Chemical Communications*, **2016**, 52, 4239-42	5.8	50
70	Laser synthesis of gold/oxide nanocomposites. *Journal of Materials Chemistry*, **2010**, 20, 1103-1106		50
69	Garnet Electrolyte Surface Degradation and Recovery. *ACS Applied Energy Materials*, **2018**, 1, 7244-7252	6.1	50
68	Propagation topography of redox phase transformations in heterogeneous layered oxide cathode materials. *Nature Communications*, **2018**, 9, 2810	17.4	45
67	Accelerated Evolution of Surface Chemistry Determined by Temperature and Cycling History in Nickel-Rich Layered Cathode Materials. *ACS Applied Materials & Interfaces*, **2018**, 10, 23842-23850	9.5	38
66	Influence of synthesis conditions on the surface passivation and electrochemical behavior of layered cathode materials. *Journal of Materials Chemistry A*, **2014**, 2, 19833-19840	13	38

65	Improvement in carrier transport properties by mild thermal annealing of PbS quantum dot solar cells. *Applied Physics Letters*, **2013**, 102, 043506	3.4	37
64	The influence of sol□gel processing on the electrochromic properties of mesoporous WO3 films produced by ultrasonic spray deposition. *Solar Energy Materials and Solar Cells*, **2014**, 121, 163-170	6.4	36
63	Direct high-resolution mapping of electrocatalytic activity of semi-two-dimensional catalysts with single-edge sensitivity. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 11618-11623	11.5	35
62	Mutual modulation between surface chemistry and bulk microstructure within secondary particles of nickel-rich layered oxides. *Nature Communications*, **2020**, 11, 4433	17.4	34
61	Empowering multicomponent cathode materials for sodium ion batteries by exploring three-dimensional compositional heterogeneities. *Energy and Environmental Science*, **2018**, 11, 2496-2508	35.4	34
60	Intercalating Ti Nb O Anode Materials for Fast-Charging, High-Capacity and Safe Lithium-Ion Batteries. *Small*, **2017**, 13, 1702903	11	33
59	Structural and Electrochemical Impacts of Mg/Mn Dual Dopants on the LiNiO Cathode in Li-Metal Batteries. *ACS Applied Materials & Interfaces*, **2020**, 12, 12874-12882	9.5	33
58	Nitrogen-doped nickel oxide thin films for enhanced electrochromic applications. *Thin Solid Films*, **2013**, 527, 26-30	2.2	33
57	Thermally driven mesoscale chemomechanical interplay in Li0.5Ni0.6Mn0.2Co0.2O2 cathode materials. *Journal of Materials Chemistry A*, **2018**, 6, 23055-23061	13	32
56	A New Anion Receptor for Improving the Interface between Lithium- and Manganese-Rich Layered Oxide Cathode and the Electrolyte. *Chemistry of Materials*, **2017**, 29, 2141-2149	9.6	31
55	High-performance inertial impaction filters for particulate matter removal. *Scientific Reports*, **2018**, 8, 4757	4.9	30
54	Low-temperature ozone exposure technique to modulate the stoichiometry of WOx nanorods and optimize the electrochromic performance. *Nanotechnology*, **2012**, 23, 255601	3.4	29
53	Atomic Insights into the Enhanced Surface Stability in High Voltage Cathode Materials by Ultrathin Coating. *Advanced Functional Materials*, **2017**, 27, 1602873	15.6	24
52	Chemical-enzymatic fractionation to unlock the potential of biomass-derived carbon materials for sodium ion batteries. *Journal of Materials Chemistry A*, **2019**, 7, 26954-26965	13	24
51	Vacancy-Enabled O3 Phase Stabilization for Manganese-Rich Layered Sodium Cathodes. *Angewandte Chemie - International Edition*, **2021**, 60, 8258-8267	16.4	23
50	Enhancing surface oxygen retention through theory-guided doping selection in Li1□NiO2 for next-generation lithium-ion batteries. *Journal of Materials Chemistry A*, **2020**, 8, 23293-23303	13	20
49	Creating compressive stress at the NiOOH/NiO interface for water oxidation. *Journal of Materials Chemistry A*, **2020**, 8, 10747-10754	13	20
48	An Ordered P2/P3 Composite Layered Oxide Cathode with Long Cycle Life in Sodium-Ion Batteries **2019**, 1, 573-581		20

47	Targeted Surface Doping with Reversible Local Environment Improves Oxygen Stability at the Electrochemical Interfaces of Nickel-Rich Cathode Materials. *ACS Applied Materials & Interfaces*, **2019**, 11, 37885-37891	9.5	19
46	Photocatalytic Activity and Selectivity of ZnO Materials in the Decomposition of Organic Compounds. *ChemCatChem*, **2013**, 5, 3841-3846	5.2	19
45	The sensitive surface chemistry of Co-free, Ni-rich layered oxides: identifying experimental conditions that influence characterization results. *Journal of Materials Chemistry A*, **2020**, 8, 17487-17497	13	19
44	Graphene as an efficient interfacial layer for electrochromic devices. *ACS Applied Materials & Interfaces*, **2015**, 7, 11330-6	9.5	18
43	Electrochromic performance of nanocomposite nickel oxide counter electrodes containing lithium and zirconium. *Solar Energy Materials and Solar Cells*, **2014**, 126, 206-212	6.4	18
42	Surface transformation by a “cocktail” solvent enables stable cathode materials for sodium ion batteries. *Journal of Materials Chemistry A*, **2018**, 6, 2758-2766	13	17
41	Ultrasonic spray deposition of high performance WO_3 films using template-assisted sol–gel chemistry. *Electrochemistry Communications*, **2012**, 25, 62-65	5.1	17
40	Nanoscale gold intercalated into mesoporous silica as a highly active and robust catalyst. *Nanotechnology*, **2012**, 23, 294010	3.4	16
39	Revealing the Dynamics and Roles of Iron Incorporation in Nickel Hydroxide Water Oxidation Catalysts. *Journal of the American Chemical Society*, **2021**, 143, 18519-18526	16.4	14
38	Electrolyte Regulating toward Stabilization of Cobalt-Free Ultrahigh-Nickel Layered Oxide Cathode in Lithium-Ion Batteries. *ACS Energy Letters*, **2021**, 6, 1324-1332	20.1	13
37	Room Temperature to 150 °C Lithium Metal Batteries Enabled by a Rigid Molecular Ionic Composite Electrolyte. *Advanced Energy Materials*, **2021**, 11, 2003559	21.8	13
36	A Surface Chemistry Approach to Tailoring the Hydrophilicity and Lithiophilicity of Carbon Films for Hosting High-Performance Lithium Metal Anodes. *Advanced Functional Materials*, **2020**, 30, 2000585	15.6	12
35	Understanding the critical chemistry to inhibit lithium consumption in lean lithium metal composite anodes. *Journal of Materials Chemistry A*, **2018**, 6, 16003-16011	13	12
34	Spatial and Temporal Analysis of Sodium-Ion Batteries. *ACS Energy Letters*, **2021**, 6, 4023-4054	20.1	12
33	Charging Reactions Promoted by Geometrically Necessary Dislocations in Battery Materials Revealed by In Situ Single-Particle Synchrotron Measurements. *Advanced Materials*, **2020**, 32, e2003417	24	11
32	Dynamics of particle network in composite battery cathodes.. *Science*, **2022**, 376, 517-521	33.3	11
31	Surface Characterization of Li-Substituted Compositionally Heterogeneous $NaLi_{0.045}Cu_{0.185}Fe_{0.265}Mn_{0.505}O_2$ Sodium-Ion Cathode Material. *Journal of Physical Chemistry C*, **2019**, 123, 11428-11435	3.8	10
30	Unveiling the critical role of the Mn dopant in a $NiFe(OH)_2$ catalyst for water oxidation. *Journal of Materials Chemistry A*, **2020**, 8, 17471-17476	13	10

29	Multiphase, Multiscale Chemomechanics at Extreme Low Temperatures: Battery Electrodes for Operation in a Wide Temperature Range. *Advanced Energy Materials*, **2021**, 11, 2102122	21.8	10
28	Self-assembled single-crystalline ZnO nanostructures. *CrystEngComm*, **2013**, 15, 3780	3.3	9
27	Heterogeneous Reaction Activities and Statistical Characteristics of Particle Cracking in Battery Electrodes. *ACS Energy Letters*,4065-4070	20.1	9
26	Tuning the Morphology and Electronic Properties of Single-Crystal LiNiMnO: Exploring the Influence of LiCl-KCl Molten Salt Flux Composition and Synthesis Temperature. *Inorganic Chemistry*, **2020**, 59, 10591-10603	5.1	9
25	Defect and structural evolution under high-energy ion irradiation informs battery materials design for extreme environments. *Nature Communications*, **2020**, 11, 4548	17.4	9
24	Fe-based single-atom catalysis for oxidizing contaminants of emerging concern by activating peroxides. *Journal of Hazardous Materials*, **2021**, 418, 126294	12.8	9
23	Tailoring Transition-Metal Hydroxides and Oxides by Photon-Induced Reactions. *Angewandte Chemie - International Edition*, **2016**, 55, 14272-14276	16.4	8
22	Vacancy-Enabled O3 Phase Stabilization for Manganese-Rich Layered Sodium Cathodes. *Angewandte Chemie*, **2021**, 133, 8339-8348	3.6	8
21	Transmission x-ray microscopy and its applications in battery material research-a short review. *Nanotechnology*, **2021**, 32,	3.4	8
20	Solid-State Conversion Reaction to Enhance Charge Transfer in Electrochromic Materials. *Advanced Materials Interfaces*, **2015**, 2, 1400523	4.6	7
19	A Self-Sodiophilic Carbon Host Promotes the Cyclability of Sodium Anode. *Advanced Functional Materials*, **2021**, 31, 2007556	15.6	6
18	Quantitative probing of the fast particle motion during the solidification of battery electrodes. *Applied Physics Letters*, **2020**, 116, 081904	3.4	5
17	X-ray Nanoimaging of Crystal Defects in Single Grains of Solid-State Electrolyte LiAlLaZrO. *Nano Letters*, **2021**, 21, 4570-4576	11.5	5
16	Sustainable Electric Vehicle Batteries for a Sustainable World: Perspectives on Battery Cathodes, Environment, Supply Chain, Manufacturing, Life Cycle, and Policy. *Advanced Energy Materials*,2200383	21.8	5
15	Mapping Lattice Distortions in LiNi0.5Mn1.5O4 Cathode Materials. *ACS Energy Letters*, **2022**, 7, 690-695	20.1	4
14	Heterogeneous, Defect-Rich Battery Particles and Electrodes: Why Do They Matter, and How Can One Leverage Them?. *Journal of Physical Chemistry C*, **2021**, 125, 9618-9629	3.8	4
13	Uncovering phase transformation, morphological evolution, and nanoscale color heterogeneity in tungsten oxide electrochromic materials. *Journal of Materials Chemistry A*, **2020**, 8, 20000-20010	13	3
12	Electrochemical and Nanomechanical Properties of TiO2 Ceramic Filler Li-Ion Composite Gel Polymer Electrolytes for Li Metal Batteries. *Advanced Materials Interfaces*, **2021**, 8, 2100669	4.6	3

11	Chemical Modulation of Local Transition Metal Environment Enables Reversible Oxygen Redox in Mn-Based Layered Cathodes. *ACS Energy Letters*, **2021**, 6, 2882-2890	20.1	3
10	New Insights into Structural Evolution of LiNiO2 Revealed by Operando Neutron Diffraction. *Batteries and Supercaps,*	5.6	3
9	Electrocatalysis: Well-Dispersed Nickel- and Zinc-Tailored Electronic Structure of a Transition Metal Oxide for Highly Active Alkaline Hydrogen Evolution Reaction (Adv. Mater. 16/2019). *Advanced Materials*, **2019**, 31, 1970113	24	2
8	Contrasting Reaction Modality between Electrochemical Sodiation and Lithiation in NiO Conversion Electrode Materials. *Microscopy and Microanalysis*, **2015**, 21, 325-326	0.5	2
7	Docking MOF crystals on graphene support for highly selective electrocatalytic peroxide production. *Nano Research*, **2021**, 1-8	10	2
6	Tailoring Disordered/Ordered Phases to Revisit the Degradation Mechanism of High-Voltage LiNi 0.5 Mn 1.5 O 4 Spinel Cathode Materials. *Advanced Functional Materials*,2112279	15.6	2
5	TXM-Sandbox: an open-source software for transmission X-ray microscopy data analysis.. *Journal of Synchrotron Radiation*, **2022**, 29, 266-275	2.4	1
4	Surface reconstruction and chemical evolution of stoichiometric layered cathode materials for lithium-ion batteries		1
3	Investigating Particle Size-Dependent Redox Kinetics and Charge Distribution in Disordered Rocksalt Cathodes. *Advanced Functional Materials*,2110502	15.6	0
2	A 3-D Phase Evolution Panorama Uncovered Using a Grid-in-a-Coin Cell Method for Conversion Reaction Electrodes in Lithium-ion Batteries. *Microscopy and Microanalysis*, **2014**, 20, 444-445	0.5	
1	Synchrotron X -ray Spectroscopy and Imaging for Metal Oxide Intercalation Cathode Chemistry **2022**, 343-373		