Langli Luo

List of Publications by Year
in descending order

97 papers	7,359 citations	66234 42 h-index	54797 84 g-index
100 all docs	100 docs citations	100 times ranked	10203 citing authors

#	Article	IF	Citations
1	Single Atomic Iron Catalysts for Oxygen Reduction in Acidic Media: Particle Size Control and Thermal Activation. Journal of the American Chemical Society, 2017, 139, 14143-14149.	6.6	1,215
2	Self-smoothing anode for achieving high-energy lithium metal batteries under realistic conditions. Nature Nanotechnology, 2019, 14, 594-601.	15.6	451
3	Harnessing the concurrent reaction dynamics in active Si and Ge to achieve high performance lithium-ion batteries. Energy and Environmental Science, 2018, 11, 669-681.	15.6	329
4	Hierarchical porous silicon structures with extraordinary mechanical strength as high-performance lithium-ion battery anodes. Nature Communications, 2020, 11, 1474.	5.8	298
5	Highly Reversible Zinc-Ion Intercalation into Chevrel Phase Mo₆S₈ Nanocubes and Applications for Advanced Zinc-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 13673-13677.	4.0	256
6	Li⁺-Desolvation Dictating Lithium-Ion Batteryâ€™s Low-Temperature Performances. ACS Applied Materials & Interfaces, 2017, 9, 42761-42768.	4.0	200
7	Coupling of electrochemically triggered thermal and mechanical effects to aggravate failure in a layered cathode. Nature Communications, 2018, 9, 2437.	5.8	200
8	A novel approach to synthesize micrometer-sized porous silicon as a high performance anode for lithium-ion batteries. Nano Energy, 2018, 50, 589-597.	8.2	191
9	Size-dependent dynamic structures of supported gold nanoparticles in CO oxidation reaction condition. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7700-7705.	3.3	183
10	Insights on the Mechanism of Na-Ion Storage in Soft Carbon Anode. Chemistry of Materials, 2017, 29, 2314-2320.	3.2	177
11	Co3O4 nanocubes homogeneously assembled on few-layer graphene for high energy density lithium-ion batteries. Journal of Power Sources, 2015, 274, 816-822.	4.0	164
12	Revealing the reaction mechanisms of Liâ€“O2 batteries using environmental transmission electron microscopy. Nature Nanotechnology, 2017, 12, 535-539.	15.6	160
13	Wide-Temperature Electrolytes for Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 18826-18835.	4.0	150
14	Nitrogenâ€“doped graphitized carbon shell encapsulated NiFe nanoparticles: A highly durable oxygen evolution catalyst. Nano Energy, 2017, 39, 245-252.	8.2	143
15	Atomic Resolution Study of Reversible Conversion Reaction in Metal Oxide Electrodes for Lithium-Ion Battery. ACS Nano, 2014, 8, 11560-11566.	7.3	142
16	Germanium as a Sodium Ion Battery Material: <i>In Situ</i> TEM Reveals Fast Sodiation Kinetics with High Capacity. Chemistry of Materials, 2016, 28, 1236-1242.	3.2	134
17	Oneâ€Pot Process for Hydrodeoxygenation of Lignin to Alkanes Using Ruâ€Based Bimetallic and Bifunctional Catalysts Supported on Zeolite Y. ChemSusChem, 2017, 10, 1846-1856.	3.6	127
18	Yolk-shell structured Sb@C anodes for high energy Na-ion batteries. Nano Energy, 2017, 40, 504-511.	8.2	123

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19	Surface-Coating Regulated Lithiation Kinetics and Degradation in Silicon Nanowires for Lithium Ion Battery. ACS Nano, 2015, 9, 5559-5566.	7.3	118
20	Rock-Salt Growth-Induced (003) Cracking in a Layered Positive Electrode for Li-Ion Batteries. ACS Energy Letters, 2017, 2, 2607-2615.	8.8	116
21	Surface Coating Constraint Induced Self-Discharging of Silicon Nanoparticles as Anodes for Lithium Ion Batteries. Nano Letters, 2015, 15, 7016-7022.	4.5	113
22	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. Chemistry of Materials, 2015, 27, 5393-5401.	3.2	108
23	Atomic origins of water-vapour-promoted alloy oxidation. Nature Materials, 2018, 17, 514-518.	13.3	106
24	Complete Decomposition of Li₂CO₃ in Liâ€“O₂ Batteries Using Ir/B₄C as Noncarbon-Based Oxygen Electrode. Nano Letters, 2017, 17, 1417-1424.	4.5	104
25	Step-Edge-Induced Oxide Growth During the Oxidation of Cu Surfaces. Physical Review Letters, 2012, 109, 235502.	2.9	103
26	Direction-specific van der Waals attraction between rutile TiO ₂ nanocrystals. Science, 2017, 356, 434-437.	6.0	103
27	Electrocatalytic Hydrogen Evolution in Neutral pH Solutions: Dual-Phase Synergy. ACS Catalysis, 2019, 9, 8712-8718.	5.5	103
28	Dye Stabilization and Enhanced Photoelectrode Wettability in Water-Based Dye-Sensitized Solar Cells through Post-assembly Atomic Layer Deposition of TiO₂. Journal of the American Chemical Society, 2013, 135, 11529-11532.	6.6	94
29	Mechanical mismatch-driven rippling in carbon-coated silicon sheets for stress-resilient battery anodes. Nature Communications, 2018, 9, 2924.	5.8	94
30	Atomistic Conversion Reaction Mechanism of WO₃ in Secondary Ion Batteries of Li, Na, and Ca. Angewandte Chemie - International Edition, 2016, 55, 6244-6247.	7.2	86
31	Dynamics of Electrochemical Lithiation/Delithiation of Graphene-Encapsulated Silicon Nanoparticles Studied by In-situ TEM. Scientific Reports, 2014, 4, 3863.	1.6	83
32	Suppressing Manganese Dissolution from Lithium Manganese Oxide Spinel Cathodes with Singleâ€Layer Graphene. Advanced Energy Materials, 2015, 5, 1500646.	10.2	72
33	B4C as a stable non-carbon-based oxygen electrode material for lithium-oxygen batteries. Nano Energy, 2017, 33, 195-204.	8.2	65
34	Electrochemically Formed Ultrafine Metal Oxide Nanocatalysts for High-Performance Lithiumâ€“Oxygen Batteries. Nano Letters, 2016, 16, 4932-4939.	4.5	62
35	In situ atomic-scale visualization of oxide islanding during oxidation of Cu surfaces. Chemical Communications, 2013, 49, 10862.	2.2	54
36	Surface-Step-Induced Oscillatory Oxide Growth. Physical Review Letters, 2014, 113, 136104.	2.9	52

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37	High performance porous Si@C anodes synthesized by low temperature aluminothermic reaction. Electrochimica Acta, 2018, 269, 509-516.	2.6	51
38	Minimized Volume Expansion in Hierarchical Porous Silicon upon Lithiation. ACS Applied Materials & Interfaces, 2019, 11, 13257-13263.	4.0	51
39	Synthesis of ZnO flowers and their photoluminescence properties. Materials Research Bulletin, 2008, 43, 1883-1891.	2.7	48
40	Defect-driven selective metal oxidation at atomic scale. Nature Communications, 2021, 12, 558.	5.8	47
41	Atomic-scale combination of germanium-zinc nanofibers for structural and electrochemical evolution. Nature Communications, 2019, 10, 2364.	5.8	44
42	Post-Assembly Atomic Layer Deposition of Ultrathin Metal-Oxide Coatings Enhances the Performance of an Organic Dye-Sensitized Solar Cell by Suppressing Dye Aggregation. ACS Applied Materials & Interfaces, 2015, 7, 5150-5159.	4.0	43
43	In Situ and Ex Situ TEM Study of Lithiation Behaviours of Porous Silicon Nanostructures. Scientific Reports, 2016, 6, 31334.	1.6	43
44	In-situ transmission electron microscopy study of surface oxidation for Niâ€“10Cr and Niâ€“20Cr alloys. Scripta Materialia, 2016, 114, 129-132.	2.6	43
45	Stress-Tolerant Nanoporous Germanium Nanofibers for Long Cycle Life Lithium Storage with High Structural Stability. ACS Nano, 2018, 12, 8169-8176.	7.3	42
46	In situ atomic scale visualization of surface kinetics driven dynamics of oxide growth on a Niâ€“Cr surface. Chemical Communications, 2016, 52, 3300-3303.	2.2	38
47	Revealing the Dynamics of Platinum Nanoparticle Catalysts on Carbon in Oxygen and Water Using Environmental TEM. ACS Catalysis, 2017, 7, 7658-7664.	5.5	38
48	Dynamic Atom Clusters on AuCu Nanoparticle Surface during CO Oxidation. Journal of the American Chemical Society, 2020, 142, 4022-4027.	6.6	36
49	Revealing the Reaction Mechanism of Naâ€“O₂ Batteries using Environmental Transmission Electron Microscopy. ACS Energy Letters, 2018, 3, 393-399.	8.8	30
50	Size-Controlled Intercalation-to-Conversion Transition in Lithiation of Transition-Metal Chalcogenidesâ€"NbSe₃. ACS Nano, 2016, 10, 1249-1255.	7.3	29
51	Effect of oxygen gas pressure on orientations of Cu2O nuclei during the initial oxidation of Cu(100), (110) and (111). Surface Science, 2012, 606, 1790-1797.	0.8	28
52	Balancing the film strain of organic semiconductors for ultrastable organic transistors with a five-year lifetime. Nature Communications, 2022, 13, 1480.	5.8	26
53	In Situ Transmission Electron Microsopy of Oxide Shell-Induced Pore Formation in (De)lithiated Silicon Nanowires. ACS Energy Letters, 2018, 3, 2829-2834.	8.8	25
54	Electrolyte-Phobic Surface for the Next-Generation Nanostructured Battery Electrodes. Nano Letters, 2020, 20, 7455-7462.	4.5	25

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55	Realâ€Time Atomicâ€Scale Visualization of Reversible Copper Surface Activation during the CO Oxidation Reaction. Angewandte Chemie - International Edition, 2020, 59, 2505-2509.	7.2	24
56	Labile Fe(III) supersaturation controls nucleation and properties of product phases from Fe(II)-catalyzed ferrihydrite transformation. Geochimica Et Cosmochimica Acta, 2021, 309, 272-285.	1.6	24
57	Mineralization of flagella for nanotube formation. Materials Science and Engineering C, 2009, 29, 2282-2286.	3.8	21
58	Atomistic Conversion Reaction Mechanism of WO₃ in Secondary Ion Batteries of Li, Na, and Ca. Angewandte Chemie, 2016, 128, 6352-6355.	1.6	21
59	Deciphering atomistic mechanisms of the gas-solid interfacial reaction during alloy oxidation. Science Advances, 2020, 6, eaay8491.	4.7	20
60	Structural origin of low Li-ion conductivity in perovskite solid-state electrolyte. Nano Energy, 2022, 92, 106758.	8.2	18
61	Dependence of degree of orientation of copper oxide nuclei on oxygen pressure during initial stages of copper oxidation. Physical Review B, 2011, 83, .	1.1	17
62	Structural Evolution of Cu/ZnO Catalysts during Water-Gas Shift Reaction: An <i>In Situ</i> Transmission Electron Microscopy Study. ACS Applied Materials & Interfaces, 2021, 13, 41707-41714.	4.0	17
63	N8 stabilized single-atom Pd for highly selective hydrogenation of acetylene. Journal of Catalysis, 2021, 395, 46-53.	3.1	16
64	Comparative study of the alloying effect on the initial oxidation of Cu-Au(100) and Cu-Pt(100). Applied Physics Letters, 2014, 104, 121601.	1.5	15
65	Reactions of graphene supported Co₃O₄nanocubes with lithium and magnesium studied by<i>in situ</i>transmission electron microscopy. Nanotechnology, 2016, 27, 085402.	1.3	15
66	Stress-resilient electrode materials for lithium-ion batteries: strategies and mechanisms. Chemical Communications, 2020, 56, 13301-13312.	2.2	13
67	Direct visualization of dynamic atomistic processes of Cu2O crystal growth through gas-solid reaction. Nano Energy, 2020, 70, 104527.	8.2	12
68	Realâ€Time Atomicâ€Scale Visualization of Reversible Copper Surface Activation during the CO Oxidation Reaction. Angewandte Chemie, 2020, 132, 2526-2530.	1.6	11
69	Atomic-Scale Dynamic Interaction of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="normal">H</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub><mml:mi mathvariant="normal">O</mml:mi></mml:mrow></mml:math> Molecules with Cu Surface. Physical Review Letters, 2020, 125, 156101.	2.9	11
70	Atomic-scale phase separation induced clustering of solute atoms. Nature Communications, 2020, 11, 3934.	5.8	11
71	Effect of gold composition on the orientations of oxide nuclei during the early stage oxidation of Cu-Au alloys. Journal of Applied Physics, 2012, 111, 083533.	1.1	10
72	Nucleation and growth of oxide islands during the initial-stage oxidation of (100)Cu-Pt alloys. Journal of Applied Physics, 2015, 117, .	1.1	10

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73	Direct Visualization of Atomic-Scale Graphene Growth on Cu through Environmental Transmission Electron Microscopy. ACS Applied Materials & Interfaces, 2020, 12, 52201-52207.	4.0	9
74	Atomic Scale Mechanisms of Multimode Oxide Growth on Nickelâ€“Chromium Alloy: Direct <i>In Situ</i> Observation of the Initial Oxide Nucleation and Growth. ACS Applied Materials & Interfaces, 2021, 13, 1903-1913.	4.0	8
75	Atomic Defect Mediated Li-Ion Diffusion in a Lithium Lanthanum Titanate Solid-State Electrolyte. ACS Nano, 2022, 16, 6898-6905.	7.3	7
76	Improving the cyclability of solid polymer electrolyte with porous V2O5 nanotube filler. Materials Today Energy, 2022, 28, 101062.	2.5	7
77	Highly Stable Oxygen Electrodes Enabled by Catalyst Redistribution through an In Situ Electrochemical Method. Advanced Energy Materials, 2019, 9, 1803598.	10.2	6
78	Vacancy ordering during selective oxidation of Î²-NiAl. Materialia, 2020, 12, 100783.	1.3	6
79	Enhancing Li-ion conduction in composite polymer electrolytes using Li_{0.33}La_{0.56}TiO₃ nanotubes. Chemical Communications, 2021, 57, 11068-11071.	2.2	6
80	Structural Heterogeneity Induced Li Dendrite Growth in Li_{0.33}La_{0.56}TiO₃ Solid-State Electrolytes. ACS Applied Energy Materials, 2022, 5, 3741-3747.	2.5	6
81	A Hollow Porous Metalâ€Organic Framework Enabled Polyethylene Oxide Based Composite Polymer Electrolytes for Allâ€Solidâ€State Lithium Batteries. Batteries and Supercaps, 2022, 5, .	2.4	6
82	Effect of surface steps on chemical ordering in the subsurface of Cu(Au) solid solutions. Physical Review B, 2021, 103, .	1.1	5
83	Revealing synergetic structural activation of a CuAu surface during waterâ€“gas shift reaction. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	5
84	Influence of the surface morphology on the early stages of Cu oxidation. Applied Surface Science, 2012, 259, 791-798.	3.1	4
85	Tackling Reversible Conversion Reaction Mechanism for Lithium Based Battery. Microscopy and Microanalysis, 2014, 20, 1618-1619.	0.2	4
86	In-Situ S/TEM Probing of the Behavior of Nanoparticles Under Chemical and Electrochemical Reactions in the System Involving Solid, Liquid and Gas. Microscopy and Microanalysis, 2018, 24, 1876-1877.	0.2	4
87	Transient Oxidation of Cu-5at.%Ni(001): Temperature Dependent Sequential Oxide Formation. Oxidation of Metals, 2013, 79, 303-311.	1.0	3
88	Comparative study of oxide-derived Cu electrocatalysts through electrochemical vs. thermal reduction. Chemical Communications, 2022, 58, 6120-6123.	2.2	3
89	Effect of Oxygen Pressure on the Initial Oxidation Behavior of Cu and Cu-Au Alloys. Materials Research Society Symposia Proceedings, 2011, 1318, 1.	0.1	2
90	Tailoring the formation of textured oxide films via primary and secondary nucleation of oxide islands. Acta Materialia, 2018, 156, 266-274.	3.8	2

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91	Atomic-Scale Interfacial Phase Transformation Governed Cu Oxidation in Water Vapor. Journal of Physical Chemistry Letters, 2021, 12, 6996-7001.	2.1	2
92	Gas adsorbate-induced Au atomic segregation and clustering from Cu(Au). Science China Materials, 2021, 64, 1256-1266.	3.5	2
93	Reaction Mechanism and Kinetic of Graphene Supported Co3O4 Nanocubes with Lithium and Magnesium Studied by in situ TEM. Microscopy and Microanalysis, 2015, 21, 1197-1198.	0.2	1
94	In-situ TEM Study of Coating Layer Function on Silicon Anode Particle for Lithium Ion Battery. Microscopy and Microanalysis, 2016, 22, 1324-1325.	0.2	1
95	In situ monitoring nanoscale solid-state phase transformation of Ag nanowire during electrochemical reaction. Scripta Materialia, 2021, 199, 113835.	2.6	1
96	10.1063/1.4870085.1. , 2014, , .		1
97	Isotropic to Anisotropic Transition Observed in Si Nanoparticles Lithiation by in situ TEM. Microscopy and Microanalysis, 2014, 20, 1652-1653.	0.2	0