

Zhi Wei Seh

List of Publications by Citations

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89
papers

21,038
citations

52
h-index

98
g-index

98
ext. papers

25,337
ext. citations

16.3
avg, IF

7.36
L-index

#	Paper	IF	Citations
89	Combining theory and experiment in electrocatalysis: Insights into materials design. <i>Science</i> , 2017 , 355,	33.3	5239
88	Sulphur-TiO ₂ yolk-shell nanoarchitecture with internal void space for long-cycle lithium-sulphur batteries. <i>Nature Communications</i> , 2013 , 4, 1331	17.4	1698
87	Designing high-energy lithium-sulfur batteries. <i>Chemical Society Reviews</i> , 2016 , 45, 5605-5634	58.5	1475
86	Balancing surface adsorption and diffusion of lithium-polysulfides on nonconductive oxides for lithium-sulfur battery design. <i>Nature Communications</i> , 2016 , 7, 11203	17.4	866
85	Two-Dimensional Molybdenum Carbide (MXene) as an Efficient Electrocatalyst for Hydrogen Evolution. <i>ACS Energy Letters</i> , 2016 , 1, 589-594	20.1	752
84	Catalytic oxidation of Li ₂ S on the surface of metal sulfides for Li-S batteries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 840-845	11.5	742
83	Janus Au-TiO ₂ photocatalysts with strong localization of plasmonic near-fields for efficient visible-light hydrogen generation. <i>Advanced Materials</i> , 2012 , 24, 2310-4	24	673
82	Understanding the Anchoring Effect of Two-Dimensional Layered Materials for Lithium-Sulfur Batteries. <i>Nano Letters</i> , 2015 , 15, 3780-6	11.5	636
81	Amphiphilic surface modification of hollow carbon nanofibers for improved cycle life of lithium sulfur batteries. <i>Nano Letters</i> , 2013 , 13, 1265-70	11.5	615
80	Understanding the role of different conductive polymers in improving the nanostructured sulfur cathode performance. <i>Nano Letters</i> , 2013 , 13, 5534-40	11.5	543
79	A Highly Reversible Room-Temperature Sodium Metal Anode. <i>ACS Central Science</i> , 2015 , 1, 449-55	16.8	516
78	Two-dimensional layered transition metal disulphides for effective encapsulation of high-capacity lithium sulphide cathodes. <i>Nature Communications</i> , 2014 , 5, 5017	17.4	461
77	Improved lithium-sulfur batteries with a conductive coating on the separator to prevent the accumulation of inactive S-related species at the cathode-separator interface. <i>Energy and Environmental Science</i> , 2014 , 7, 3381-3390	35.4	425
76	Stable cycling of lithium sulfide cathodes through strong affinity with a bifunctional binder. <i>Chemical Science</i> , 2013 , 4, 3673	9.4	366
75	Improving lithium-sulphur batteries through spatial control of sulphur species deposition on a hybrid electrode surface. <i>Nature Communications</i> , 2014 , 5, 3943	17.4	341
74	High-performance hollow sulfur nanostructured battery cathode through a scalable, room temperature, one-step, bottom-up approach. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 7148-53	11.5	340
73	Understanding heterogeneous electrocatalytic carbon dioxide reduction through operando techniques. <i>Nature Catalysis</i> , 2018 , 1, 922-934	36.5	318

72	Sulfur cathodes with hydrogen reduced titanium dioxide inverse opal structure. <i>ACS Nano</i> , 2014 , 8, 5249-567	11.5	273
71	A Bamboo-Inspired Nanostructure Design for Flexible, Foldable, and Twistable Energy Storage Devices. <i>Nano Letters</i> , 2015 , 15, 3899-906	11.5	257
70	Facile synthesis of Li ₂ S/polypyrrole composite structures for high-performance Li ₂ S cathodes. <i>Energy and Environmental Science</i> , 2014 , 7, 672	35.4	237
69	Graphite-Encapsulated Li-Metal Hybrid Anodes for High-Capacity Li Batteries. <i>Chem</i> , 2016 , 1, 287-297	16.2	197
68	Tuning the Basal Plane Functionalization of Two-Dimensional Metal Carbides (MXenes) To Control Hydrogen Evolution Activity. <i>ACS Applied Energy Materials</i> , 2018 , 1, 173-180	6.1	192
67	Crab shells as sustainable templates from nature for nanostructured battery electrodes. <i>Nano Letters</i> , 2013 , 13, 3385-90	11.5	185
66	High-capacity battery cathode prelithiation to offset initial lithium loss. <i>Nature Energy</i> , 2016 , 1,	62.3	169
65	Crystal Growth of Calcium Carbonate in Hydrogels as a Model of Biomineralization. <i>Advanced Functional Materials</i> , 2012 , 22, 2891-2914	15.6	157
64	Rational Design of Two-Dimensional Transition Metal Carbide/Nitride (MXene) Hybrids and Nanocomposites for Catalytic Energy Storage and Conversion. <i>ACS Nano</i> , 2020 , 14, 10834-10864	16.7	152
63	Ultrathin two-dimensional materials for photo- and electrocatalytic hydrogen evolution. <i>Materials Today</i> , 2018 , 21, 749-770	21.8	147
62	Theoretical Investigation of 2D Layered Materials as Protective Films for Lithium and Sodium Metal Anodes. <i>Advanced Energy Materials</i> , 2017 , 7, 1602528	21.8	145
61	High-throughput theoretical optimization of the hydrogen evolution reaction on MXenes by transition metal modification. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 4271-4278	13	140
60	Fast conversion and controlled deposition of lithium (poly)sulfides in lithium-sulfur batteries using high-loading cobalt single atoms. <i>Energy Storage Materials</i> , 2020 , 30, 250-259	19.4	138
59	Theory-guided materials design: two-dimensional MXenes in electro- and photocatalysis. <i>Nanoscale Horizons</i> , 2019 , 4, 809-827	10.8	132
58	Anisotropic growth of titania onto various gold nanostructures: synthesis, theoretical understanding, and optimization for catalysis. <i>Angewandte Chemie - International Edition</i> , 2011 , 50, 10140-34	16.4	131
57	Predicting the state of charge and health of batteries using data-driven machine learning. <i>Nature Machine Intelligence</i> , 2020 , 2, 161-170	22.5	121
56	A Sulfur Cathode with Pomegranate-Like Cluster Structure. <i>Advanced Energy Materials</i> , 2015 , 5, 1500211	21.8	108
55	Engineering stable electrode-separator interfaces with ultrathin conductive polymer layer for high-energy-density Li-S batteries. <i>Energy Storage Materials</i> , 2019 , 23, 261-268	19.4	99

54	High-capacity Li ₂ S/graphene oxide composite cathodes with stable cycling performance. <i>Chemical Science</i> , 2014 , 5, 1396	9.4	99
53	On the Role of Sulfur for the Selective Electrochemical Reduction of CO to Formate on CuS Catalysts. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 28572-28581	9.5	96
52	Catalytic Polysulfide Conversion and Physiochemical Confinement for Lithium-Sulfur Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 1904010	21.8	94
51	Synthesis and multiple reuse of eccentric Au@TiO ₂ nanostructures as catalysts. <i>Chemical Communications</i> , 2011 , 47, 6689-91	5.8	93
50	Highly Nitridated Graphene-Li ₂ S Cathodes with Stable Modulated Cycles. <i>Advanced Energy Materials</i> , 2015 , 5, 1501369	21.8	87
49	Establishing new scaling relations on two-dimensional MXenes for CO ₂ electroreduction. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 21885-21890	13	85
48	Self-gating in semiconductor electrocatalysis. <i>Nature Materials</i> , 2019 , 18, 1098-1104	27	84
47	Metal-organic framework-derived hierarchical MoS ₂ /CoS ₂ nanotube arrays as pH-universal electrocatalysts for efficient hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 13339-13346 ¹³		81
46	Enhanced Chemical Immobilization and Catalytic Conversion of Polysulfide Intermediates Using Metallic Mo Nanoclusters for High-Performance Li-S Batteries. <i>ACS Nano</i> , 2020 , 14, 1148-1157	16.7	81
45	Effects of Applied Potential and Water Intercalation on the Surface Chemistry of Ti ₂ C and Mo ₂ C MXenes. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 28432-28440	3.8	80
44	In Situ Chemical Synthesis of Lithium Fluoride/Metal Nanocomposite for High Capacity Prelithiation of Cathodes. <i>Nano Letters</i> , 2016 , 16, 1497-501	11.5	77
43	In-operando optical imaging of temporal and spatial distribution of polysulfides in lithium-sulfur batteries. <i>Nano Energy</i> , 2015 , 11, 579-586	17.1	76
42	2H-MoS on MoCT MXene Nanohybrid for Efficient and Durable Electrocatalytic Hydrogen Evolution. <i>ACS Nano</i> , 2020 , 14, 16140-16155	16.7	65
41	An artificial metal-alloy interphase for high-rate and long-life sodium-sulfur batteries. <i>Energy Storage Materials</i> , 2020 , 29, 1-8	19.4	62
40	A Replacement Reaction Enabled Interdigitated Metal/Solid Electrolyte Architecture for Battery Cycling at 20 mA cm and 20 mAh cm. <i>Journal of the American Chemical Society</i> , 2021 , 143, 3143-3152	16.4	60
39	Lithium Sulfide/Metal Nanocomposite as a High-Capacity Cathode Prelithiation Material. <i>Advanced Energy Materials</i> , 2016 , 6, 1600154	21.8	57
38	Two-Dimensional Titanium and Molybdenum Carbide MXenes as Electrocatalysts for CO Reduction. <i>IScience</i> , 2020 , 23, 101181	6.1	56
37	Catalytic Effect on CO Electroreduction by Hydroxyl-Terminated Two-Dimensional MXenes. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 36571-36579	9.5	52

36	Room-Temperature Sodium-Sulfur Batteries and Beyond: Realizing Practical High Energy Systems through Anode, Cathode, and Electrolyte Engineering. <i>Advanced Energy Materials</i> , 2021 , 11, 2003493	21.8	50
35	Conformal Prelithiation Nanoshell on LiCoO Enabling High-Energy Lithium-Ion Batteries. <i>Nano Letters</i> , 2020 , 20, 4558-4565	11.5	44
34	Manipulating Redox Kinetics of Sulfur Species Using Mott-Schottky Electrocatalysts for Advanced Lithium-Sulfur Batteries. <i>Nano Letters</i> , 2021 , 21, 6656-6663	11.5	44
33	Anisotropic Growth of Titania onto Various Gold Nanostructures: Synthesis, Theoretical Understanding, and Optimization for Catalysis. <i>Angewandte Chemie</i> , 2011 , 123, 10322-10325	3.6	39
32	Atomistic modeling of electrocatalysis: Are we there yet?. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2021 , 11, e1499	7.9	39
31	Tailoring Porosity in Copper-Based Multinary Sulfide Nanostructures for Energy, Biomedical, Catalytic, and Sensing Applications. <i>ACS Applied Nano Materials</i> , 2018 , 1, 3042-3062	5.6	34
30	A Biphasic Interphase Design Enabling High Performance in Room Temperature Sodium-Sulfur Batteries. <i>Cell Reports Physical Science</i> , 2020 , 1, 100044	6.1	34
29	Material design strategies to improve the performance of rechargeable magnesium-sulfur batteries. <i>Materials Horizons</i> , 2021 , 8, 830-853	14.4	31
28	Metal/LiF/LiO Nanocomposite for Battery Cathode Prelithiation: Trade-off between Capacity and Stability. <i>Nano Letters</i> , 2020 , 20, 546-552	11.5	29
27	Tailoring binder-cathode interactions for long-life room-temperature sodium-sulfur batteries. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 22983-22997	13	29
26	Promises and Challenges of the Practical Implementation of Prelithiation in Lithium-Ion Batteries. <i>Advanced Energy Materials</i> , 2021 , 11, 2101565	21.8	28
25	Titania-coated metal nanostructures. <i>Chemistry - an Asian Journal</i> , 2012 , 7, 2174-84	4.5	27
24	Surface-engineered cobalt oxide nanowires as multifunctional electrocatalysts for efficient Zn-Air batteries-driven overall water splitting. <i>Energy Storage Materials</i> , 2019 , 23, 1-7	19.4	26
23	A High-Performance Magnesium Triflate-based Electrolyte for Rechargeable Magnesium Batteries. <i>Cell Reports Physical Science</i> , 2020 , 1, 100265	6.1	24
22	Defect-Enhanced CO Reduction Catalytic Performance in O-Terminated MXenes. <i>ChemSusChem</i> , 2020 , 13, 5690-5698	8.3	24
21	Designing Nanostructured Metal Chalcogenides as Cathode Materials for Rechargeable Magnesium Batteries. <i>Small</i> , 2021 , 17, e2007683	11	22
20	A Salt-in-Metal Anode: Stabilizing the Solid Electrolyte Interphase to Enable Prolonged Battery Cycling. <i>Advanced Functional Materials</i> , 2021 , 31, 2010602	15.6	18
19	Machine Learning: An Advanced Platform for Materials Development and State Prediction in Lithium-Ion Batteries. <i>Advanced Materials</i> , 2021 , e2101474	24	14

18	Using a Chloride-Free Magnesium Battery Electrolyte to Form a Robust Anode-Electrolyte Nanointerface. <i>Nano Letters</i> , 2021 , 21, 8220-8228	11.5	13
17	Stable interphase chemistry of textured Zn anode for rechargeable aqueous batteries. <i>Science Bulletin</i> , 2022 ,	10.6	12
16	Tunable Nitrogen-Doping of Sulfur Host Nanostructures for Stable and Shuttle-Free Room-Temperature Sodium-Sulfur Batteries. <i>Nano Letters</i> , 2021 , 21, 5401-5408	11.5	10
15	Theory-guided experimental design in battery materials research.. <i>Science Advances</i> , 2022 , 8, eabm2422	14.3	9
14	Rechargeable Magnesium Batteries Enabled by Conventional Electrolytes with Multifunctional Organic Chloride Additives. <i>Energy Storage Materials</i> , 2021 ,	19.4	8
13	Enhanced processability and electrochemical cyclability of metallic sodium at elevated temperature using sodium alloy composite. <i>Energy Storage Materials</i> , 2021 , 35, 310-316	19.4	8
12	Addressing the Low Solubility of a Solid Electrolyte Interphase Stabilizer in an Electrolyte by Composite Battery Anode Design. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 13354-13361	9.5	7
11	Sulfurized Cyclopentadienyl Nanocomposites for Shuttle-Free Room-Temperature Sodium-Sulfur Batteries. <i>Nano Letters</i> , 2021 ,	11.5	4
10	Insights on Nitrate salt in lithium anode for stabilized solid electrolyte interphase 2022 , 4, 12-20		3
9	Towards autonomous high-throughput multiscale modelling of battery interfaces. <i>Energy and Environmental Science</i> ,	35.4	3
8	Implications of Na-ion solvation on Na anode-electrolyte interphase. <i>Trends in Chemistry</i> , 2021 ,	14.8	3
7	Ultrafine Sodium Sulfide Clusters Confined in Carbon Nano-polyhedrons as High-Efficiency Presodiation Reagents for Sodium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 27057-27063	25.7	3
6	MXenes and their derivatives as nitrogen reduction reaction catalysts: recent progress and perspectives. <i>Materials Today Energy</i> , 2021 , 22, 100864	7	3
5	Guiding Uniform Sodium Deposition through Host Modification for Sodium Metal Batteries. <i>Batteries and Supercaps</i> ,	5.6	3
4	Strain-controlled single Cr-embedded nitrogen-doped graphene achieves efficient nitrogen reduction. <i>Materials Advances</i> , 2021 , 2, 5704-5711	3.3	2
3	Hydrogels: Crystal Growth of Calcium Carbonate in Hydrogels as a Model of Biomineralization (Adv. Funct. Mater. 14/2012). <i>Advanced Functional Materials</i> , 2012 , 22, 2890-2890	15.6	1
2	Autonomous high-throughput computations in catalysis. <i>Chem Catalysis</i> , 2022 ,		1
1	Quasi-solid-state conversion cathode materials for room-temperature sodium-sulfur batteries 2022 0008		1

