Billy Wu

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/9078645/publications.pdf

Version: 2024-02-01

80	4,500	136740	106150
papers	citations	32 h-index	65 g-index

81	81	81	4019
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Lithium-ion battery fast charging: A review. ETransportation, 2019, 1, 100011.	6.8	835
2	Lithium ion battery degradation: what you need to know. Physical Chemistry Chemical Physics, 2021, 23, 8200-8221.	1.3	330
3	Operando Visualization and Multi-scale Tomography Studies of Dendrite Formation and Dissolution in Zinc Batteries. Joule, 2019, 3, 485-502.	11.7	300
4	Coupled thermalâ€“electrochemical modelling of uneven heat generation in lithium-ion battery packs. Journal of Power Sources, 2013, 243, 544-554.	4.0	206
5	Battery digital twins: Perspectives on the fusion of models, data and artificial intelligence for smart battery management systems. Energy and AI, 2020, 1, 100016.	5.8	180
6	The effect of thermal gradients on the performance of lithium-ion batteries. Journal of Power Sources, 2014, 247, 1018-1025.	4.0	160
7	Module design and fault diagnosis in electric vehicle batteries. Journal of Power Sources, 2012, 206, 383-392.	4.0	157
8	Immersion cooling for lithium-ion batteries â€“ A review. Journal of Power Sources, 2022, 525, 231094.	4.0	142
9	A lung-inspired approach to scalable and robust fuel cell design. Energy and Environmental Science, 2018, 11, 136-143.	15.6	134
10	The effect of cell-to-cell variations and thermal gradients on the performance and degradation of lithium-ion battery packs. Applied Energy, 2019, 248, 489-499.	5.1	131
11	Novel application of differential thermal voltammetry as an in-depth state-of-health diagnosis method for lithium-ion batteries. Journal of Power Sources, 2016, 307, 308-319.	4.0	109
12	Differential thermal voltammetry for tracking of degradation in lithium-ion batteries. Journal of Power Sources, 2015, 273, 495-501.	4.0	104
13	Implementation for a cloud battery management system based on the CHAIN framework. Energy and AI, 2021, 5, 100088.	5.8	93
14	Flexible all-fiber electrospun supercapacitor. Journal of Power Sources, 2018, 384, 264-269.	4.0	77
15	Lithium-ion battery degradation: how to model it. Physical Chemistry Chemical Physics, 2022, 24, 7909-7922.	1.3	73
16	An integrated approach for the analysis and control of grid connected energy storage systems. Journal of Energy Storage, 2016, 5, 48-61.	3.9	70
17	In-Operando X-ray Tomography Study of Lithiation Induced Delamination of Si Based Anodes for Lithium-Ion Batteries. ECS Electrochemistry Letters, 2014, 3, A76-A78.	1.9	60
18	Electrochemical Thermal-Mechanical Modelling of Stress Inhomogeneity in Lithium-Ion Pouch Cells. Journal of the Electrochemical Society, 2020, 167, 013512.	1.3	59

#	Article	IF	Citations
19	Designed high-performance lithium-ion battery electrodes using a novel hybrid model-data driven approach. Energy Storage Materials, 2021, 36, 435-458.	9.5	55
20	Interactions are important: Linking multi-physics mechanisms to the performance and degradation of solid-state batteries. Materials Today, 2021, 49, 145-183.	8.3	51
21	Aligned Ionogel Electrolytes for Highâ€Temperature Supercapacitors. Advanced Science, 2019, 6, 1801337.	5.6	48
22	A computational multi-node electro-thermal model for large prismatic lithium-ion batteries. Journal of Power Sources, 2020, 459, 228070.	4.0	48
23	Extending battery life: A low-cost practical diagnostic technique for lithium-ion batteries. Journal of Power Sources, 2016, 331, 224-231.	4.0	47
24	Design and testing of a 9.5ÂkWe proton exchange membrane fuel cellâ€“supercapacitor passive hybrid system. International Journal of Hydrogen Energy, 2014, 39, 7885-7896.	3.8	46
25	An easy-to-parameterise physics-informed battery model and its application towards lithium-ion battery cell design, diagnosis, and degradation. Journal of Power Sources, 2018, 384, 66-79.	4.0	45
26	A Low Cost Desktop Electrochemical Metal 3D Printer. Advanced Materials Technologies, 2017, 2, 1700148.	3.0	44
27	A parameter adaptive method for state of charge estimation of lithium-ion batteries with an improved extended Kalman filter. Scientific Reports, 2021, 11, 5805.	1.6	44
28	A novel regenerative hydrogen cerium fuel cell for energy storage applications. Journal of Materials Chemistry A, 2015, 3, 9446-9450.	5.2	42
29	Electrical conductivity and porosity in stainless steel 316L scaffolds for electrochemical devices fabricated using selective laser sintering. Materials and Design, 2016, 106, 51-59.	3.3	41
30	â€œAll-in-Gelâ€•design for supercapacitors towards solid-state energy devices with thermal and mechanical compliance. Journal of Materials Chemistry A, 2019, 7, 8826-8831.	5.2	41
31	NiCo Metalâ€“Organic Framework and Porous Carbon Interlayer-Based Supercapacitors Integrated with a Solar Cell for a Stand-Alone Power Supply System. ACS Applied Materials & Interfaces, 2020, 12, 42749-42762.	4.0	35
32	Towards the digitalisation of porous energy materials: evolution of digital approaches for microstructural design. Energy and Environmental Science, 2021, 14, 2549-2576.	15.6	34
33	Bridging Multiscale Characterization Technologies and Digital Modeling to Evaluate Lithium Battery Full Lifecycle. Advanced Energy Materials, 2022, 12, .	10.2	34
34	Hydrogen PEMFC system for automotive applications. International Journal of Low-Carbon Technologies, 2012, 7, 28-37.	1.2	33
35	Revealing the anion intercalation behavior and surface evolution of graphite in dual-ion batteries via in situ AFM. Nano Research, 2020, 13, 412-418.	5.8	33
36	3Dâ€Printed Structural Pseudocapacitors. Advanced Materials Technologies, 2016, 1, 1600167.	3.0	32

#	Article	IF	Citations
37	Multi-metal 4D printing with a desktop electrochemical 3D printer. Scientific Reports, 2019, 9, 3973.	1.6	32
38	Bimetallic organic framework-derived rich pyridinic N-doped carbon nanotubes as oxygen catalysts for rechargeable Zn-air batteries. Journal of Power Sources, 2020, 472, 228470.	4.0	31
39	Generalised diagnostic framework for rapid battery degradation quantification with deep learning. Energy and AI, 2022, 9, 100158.	5.8	30
40	A continuum of physics-based lithium-ion battery models reviewed. Progress in Energy, 2022, 4, 042003.	4.6	30
41	Modelling of redox flow battery electrode processes at a range of length scales: a review. Sustainable Energy and Fuels, 2020, 4, 5433-5468.	2.5	29
42	Designer uniform Li plating/stripping through lithiumâ€“cobalt alloying hierarchical scaffolds for scalable high-performance lithium-metal anodes. Journal of Energy Chemistry, 2021, 52, 385-392.	7.1	29
43	Meta-analysis of experimental results for heat capacity and thermal conductivity in lithium-ion batteries: A critical review. Journal of Power Sources, 2022, 522, 230829.	4.0	28
44	A composite electrode model for lithium-ion batteries with silicon/graphite negative electrodes. Journal of Power Sources, 2022, 527, 231142.	4.0	28
45	Tough Ionogelâ€inâ€Mask Hybrid Gel Electrolytes in Supercapacitors with Durable Pressure and Thermal Tolerances. Energy Technology, 2017, 5, 220-224.	1.8	19
46	In-situ fabrication of carbon-metal fabrics as freestanding electrodes for high-performance flexible energy storage devices. Energy Storage Materials, 2020, 30, 329-336.	9.5	19
47	Lithium-ion batteries under pulsed current operation to stabilize future grids. Cell Reports Physical Science, 2022, 3, 100708.	2.8	19
48	Nickel cobaltite@poly(3,4-ethylenedioxypyrrole) and carbon nanofiber interlayer based flexible supercapacitors. Nanoscale, 2019, 11, 2742-2756.	2.8	18
49	Sn@C evolution from yolk-shell to core-shell in carbon nanofibers with suppressed degradation of lithium storage. Energy Storage Materials, 2019, 18, 229-237.	9.5	18
50	Battery Degradation-Aware Current Derating: An Effective Method to Prolong Lifetime and Ease Thermal Management. Journal of the Electrochemical Society, 2021, 168, 060506.	1.3	18
51	Hybridizing Leadâ€“Acid Batteries with Supercapacitors: A Methodology. Energies, 2021, 14, 507.	1.6	16
52	How to Design Lithium Ion Capacitors: Modelling, Mass Ratio of Electrodes and Pre-lithiation. Journal of the Electrochemical Society, 2020, 167, 013527.	1.3	15
53	Cost-Effective MIL-53(Cr) Metalâ€“Organic Framework-Based Supercapacitors Encompassing Fast-Ion (Li⁺/H⁺/Na⁺) Conductors. ACS Applied Energy Materials, 2021, 4, 4729-4743.	2.5	14
54	Highly Aligned Ultraâ€Thick Gelâ€Based Cathodes Unlocking Ultraâ€High Energy Density Batteries. Energy and Environmental Materials, 2022, 5, 1332-1339.	7.3	13

#	Article	IF	Citations
55	A systematic study on the use of short circuiting for the improvement of proton exchange membrane fuel cell performance. International Journal of Hydrogen Energy, 2017, 42, 4320-4327.	3.8	12
56	Additive Manufacturing for Solid Oxide Cell Electrode Fabrication. ECS Transactions, 2015, 68, 2119-2127.	0.3	11
57	Peak-tracking method to quantify degradation modes in lithium-ion batteries via differential voltage and incremental capacity. Journal of Energy Storage, 2022, 45, 103669.	3.9	11
58	Holey graphitic carbon nano-flakes with enhanced storage characteristics scaled to a pouch cell supercapacitor. Fuel, 2021, 285, 119246.	3.4	10
59	Real-time monitoring of proton exchange membrane fuel cell stack failure. Journal of Applied Electrochemistry, 2016, 46, 1157-1162.	1.5	9
60	â€œCanâ€•You Really Make a Battery Out of That?. Journal of Chemical Education, 2016, 93, 681-686.	1.1	8
61	Electrospun composite nanofibre supercapacitors enhanced with electrochemically 3D printed current collectors. Journal of Energy Storage, 2019, 26, 100993.	3.9	8
62	Degradation Diagnostics for Li₄Ti₅O₁₂-Based Lithium Ion Capacitors: Insights from a Physics-Based Model. Journal of the Electrochemical Society, 2020, 167, 043503.	1.3	7
63	Trichome-like Carbon-Metal Fabrics Made of Carbon Microfibers, Carbon Nanotubes, and Fe-Based Nanoparticles as Electrodes for Regenerative Hydrogen/Vanadium Flow Cells. ACS Applied Nano Materials, 2021, 4, 10754-10763.	2.4	7
64	The Effects of Temperature and Cell Parameters on Lithium-Ion Battery Fast Charging Protocols: A Model-Driven Investigation. Journal of the Electrochemical Society, 2022, 169, 060542.	1.3	7
65	The effect of thermal gradients on the performance of battery packs in automotive applications. , 2013, , .		4
66	â€œElectrochemical Power Sources: Batteries, Fuel Cells, and Supercapacitorsâ€• Johnson Matthey Technology Review, 2015, 59, 319-321.	0.5	4
67	Fault analysis in battery module design for electric and hybrid vehicles. , 2012, , .		3
68	Simulated and Experimental Validation of a Fuel Cell-Supercapacitor Passive Hybrid System for Electric Vehicles. , 2013, , .		3
69	How Can Insights from Degradation Modelling Inform Operational Strategies to Increase the Lifetime of Li-Ion Batteries in Islanded Mini-Grids?. ECS Meeting Abstracts, 2020, MA2020-02, 3780-3780.	0.0	3
70	Model-informed battery current derating strategies: Simple methods to extend battery lifetime in islanded mini-grids. Journal of Energy Storage, 2022, 51, 104524.	3.9	3
71	Design of Fibre Ni/CGO Anode and Model Interpretation. ECS Transactions, 2019, 91, 1721-1739.	0.3	2
72	Supercapacitors: Aligned Ionogel Electrolytes for High-Temperature Supercapacitors (Adv. Sci. 5/2019). Advanced Science, 2019, 6, 1970029.	5.6	2

#	Article	IF	Citations
73	Novel Degradation Model-Based Current Derating Strategy for Lithium-Ion-Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 3808-3808.	0.0	2
74	Environmental Impact of Hybrid and Electric Vehicles. Issues in Environmental Science and Technology, 0, , 133-156.	0.4	2
75	3D Printing: 3Dâ€Printed Structural Pseudocapacitors (Adv. Mater. Technol. 9/2016). Advanced Materials Technologies, 2016, 1, .	3.0	1
76	Lithium Plating Heterogeneity Caused by Realistic Thermal Gradients. ECS Meeting Abstracts, 2021, MA2021-02, 460-460.	0.0	1
77	Investigating Li Plating Distribution Caused By a Thermal Gradient through Modelling, Differential Voltage, and Post-Mortem Analysis. ECS Meeting Abstracts, 2022, MA2022-01, 186-186.	0.0	1
78	3D Printing: A Low Cost Desktop Electrochemical Metal 3D Printer (Adv. Mater. Technol. 10/2017). Advanced Materials Technologies, 2017, 2, .	3.0	0
79	3D Printed Structural Pseudocapacitors - a Multi-Scale X-Ray Tomography Study. ECS Meeting Abstracts, 2016, , .	0.0	0
80	Hierarchical Carbon Nano Fibres for Flexible Zn-Air Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0