

# Daniel Schröder

## List of Publications by Year in descending order

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60  
papers

2,738  
citations

201575

27  
h-index

182361

51  
g-index

66  
all docs

66  
docs citations

66  
times ranked

3191  
citing authors

#	ARTICLE	IF	CITATIONS
1	Digitalization Platform for Mechanistic Modeling of Battery Cell Production. Sustainability, 2022, 14, 1530.	1.6	5
2	Performance enhancement of alkaline organic redox flow battery using catalyst including titanium oxide and Ketjenblack. Korean Journal of Chemical Engineering, 2022, 39, 1624-1631.	1.2	10
3	Nonlinear Electrochemical Analysis: Worth the Effort to Reveal New Insights into Energy Materials. Advanced Energy Materials, 2022, 12, .	10.2	11
4	Elucidating the Solubility and Diffusivity of Atmospheric Gases in a Wide Variation of Liquid Electrolytes for Lithium-Air Batteries. ECS Meeting Abstracts, 2021, MA2021-01, 390-390.	0.0	0
5	Editors'™ Choice™ Quantification of the Impact of Chemo-Mechanical Degradation on the Performance and Cycling Stability of NCM-Based Cathodes in Solid-State Li-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 070546.	1.3	22
6	Understanding the Transport of Atmospheric Gases in Liquid Electrolytes for Lithium-Air Batteries. Journal of the Electrochemical Society, 2021, 168, 070504.	1.3	6
7	Electrochemical Lithiation/Delithiation of ZnO in 3D-Structured Electrodes: Elucidating the Mechanism and the Solid Electrolyte Interphase Formation. ACS Applied Materials & Interfaces, 2021, 13, 35625-35638.	4.0	10
8	Singlet Oxygen in Electrochemical Cells: A Critical Review of Literature and Theory. Chemical Reviews, 2021, 121, 12445-12464.	23.0	48
9	Hybridization of carbon nanotube tissue and MnO <sub>2</sub> as a generic advanced air cathode in metal-air batteries. Journal of Power Sources, 2021, 514, 230597.	4.0	5
10	A mechanistic investigation of the Li <sub>10</sub> GeP <sub>2</sub> S <sub>12</sub>   LiNi <sub>1-x-y</sub> CoxMnyO <sub>2</sub> interface stability in all-solid-state lithium batteries. Nature Communications, 2021, 12, 6669.	5.8	72
11	Nanomaterials for alkali metal/oxygen batteries. Frontiers of Nanoscience, 2021, 19, 199-227.	0.3	0
12	Design Strategies to Enable the Efficient Use of Sodium Metal Anodes in High-Energy Batteries. Advanced Materials, 2020, 32, e1903891.	11.1	173
13	Pathways to Triplet or Singlet Oxygen during the Dissociation of Alkali Metal Superoxides: Insights by Multireference Calculations of Molecular Model Systems. Chemistry - A European Journal, 2020, 26, 2395-2404.	1.7	13
14	Reproducible and stable cycling performance data on secondary zinc oxygen batteries. Scientific Data, 2020, 7, 395.	2.4	5
15	Pulse Discharging of Sodium-Oxygen Batteries to Enhance Cathode Utilization. Energies, 2020, 13, 5650.	1.6	2
16	Partially methylated polybenzimidazoles as coating for alkaline zinc anodes. Journal of Membrane Science, 2020, 610, 118254.	4.1	12
17	From Liquid- to Solid-State Batteries: Ion Transfer Kinetics of Heteroionic Interfaces. Electrochemical Energy Reviews, 2020, 3, 221-238.	13.1	117
18	Implications of Testing a Zinc-Oxygen Battery with Zinc Foil Anode Revealed by Operando Gas Analysis. ACS Omega, 2020, 5, 626-633.	1.6	17

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19	Incorporating Diamondoids as Electrolyte Additive in the Sodium Metal Anode to Mitigate Dendrite Growth. <i>ChemSusChem</i> , 2020, 13, 2661-2670.	3.6	30
20	A Comparative Review of Electrolytes for Organicâ€Materialâ€Based Energyâ€Storage Devices Employing Solid Electrodes and Redox Fluids. <i>ChemSusChem</i> , 2020, 13, 2205-2219.	3.6	64
21	Tailoring Dihydroxyphthalazines to Enable Their Stable and Efficient Use in the Catholyte of Aqueous Redox Flow Batteries. <i>Chemistry of Materials</i> , 2020, 32, 3427-3438.	3.2	22
22	Understanding the Impact of Compression on the Active Area of Carbon Felt Electrodes for Redox Flow Batteries. <i>ACS Applied Energy Materials</i> , 2020, 3, 4384-4393.	2.5	24
23	Looking Deep inside the Cathode of Li-O2 Batteries: Unraveling the Local Distribution of Li2O2 with a Combined Experimental and Model-Based Approach. <i>ECS Meeting Abstracts</i> , 2020, MA2020-01, 445-445.	0.0	0
24	Benchmarking Anode Concepts: The Future of Electrically Rechargeable Zincâ€Air Batteries. <i>ACS Energy Letters</i> , 2019, 4, 1287-1300.	8.8	136
25	Practical Implications of Using a Solid Electrolyte in Batteries with a Sodium Anode: A Combined Xâ€Ray Tomography and Modelâ€Based Study. <i>Energy Technology</i> , 2019, 7, 1801146.	1.8	14
26	Which Parameter is Governing for Aqueous Redox Flow Batteries with Organic Active Material?. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 786-794.	0.4	27
27	Unraveling the Formation Mechanism of Solidâ€Liquid Electrolyte Interphases on LiPON Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 9539-9547.	4.0	29
28	Operando Analysis of Reactant Conversion and Material Stability in Nextâ€Generation Batteries. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 555-559.	0.4	0
29	Homogeneous Coating with an Anion-Exchange Ionomer Improves the Cycling Stability of Secondary Batteries with Zinc Anodes. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 8640-8648.	4.0	61
30	Quest for Organic Active Materials for Redox Flow Batteries: 2,3-Diaza-anthraquinones and Their Electrochemical Properties. <i>Chemistry of Materials</i> , 2018, 30, 762-774.	3.2	44
31	Diffusivity and Solubility of Oxygen in Solvents for Metal/Oxygen Batteries: A Combined Theoretical and Experimental Study. <i>Journal of the Electrochemical Society</i> , 2018, 165, A3095-A3099.	1.3	24
32	Next-Generation Rechargeable Batteries: Challenges for Developing Rechargeable Room-Temperature Sodium Oxygen Batteries ( <i>Adv. Mater. Technol.</i> 9/2018). <i>Advanced Materials Technologies</i> , 2018, 3, 1870035.	3.0	2
33	Towards zinc-oxygen batteries with enhanced cycling stability: The benefit of anion-exchange ionomer for zinc sponge anodes. <i>Journal of Power Sources</i> , 2018, 395, 195-204.	4.0	65
34	Challenges for Developing Rechargeable Roomâ€Temperature Sodium Oxygen Batteries. <i>Advanced Materials Technologies</i> , 2018, 3, 1800110.	3.0	29
35	Controlled Electrodeposition of Zinc Oxide on Conductive Meshes and Foams Enabling Its Use as Secondary Anode. <i>Journal of the Electrochemical Society</i> , 2018, 165, D461-D466.	1.3	17
36	Charge Transfer Characteristics of Diaza-Anthraquinones in Different Solvents and Their Application As Organic Active Material in Redox Flow Batteries. <i>ECS Meeting Abstracts</i> , 2018, , .	0.0	0

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37	Interfacial Processes and Influence of Composite Cathode Microstructure Controlling the Performance of All-Solid-State Lithium Batteries. ACS Applied Materials & Interfaces, 2017, 9, 17835-17845.	4.0	353
38	(Electro)chemical expansion during cycling: monitoring the pressure changes in operating solid-state lithium batteries. Journal of Materials Chemistry A, 2017, 5, 9929-9936.	5.2	222
39	Origins of Dendrite Formation in Sodium-Oxygen Batteries and Possible Countermeasures. Energy Technology, 2017, 5, 2265-2274.	1.8	56
40	How to Control the Discharge Product in Sodium-Oxygen Batteries: Proposing New Pathways for Sodium Peroxide Formation. Energy Technology, 2017, 5, 1242-1249.	1.8	18
41	Visualizing Current-Dependent Morphology and Distribution of Discharge Products in Sodium-Oxygen Battery Cathodes. Scientific Reports, 2016, 6, 24288.	1.6	38
42	Insights into the Chemical Nature and Formation Mechanisms of Discharge Products in Na-O <sub>2</sub> Batteries by Means of Operando X-ray Diffraction. Journal of Physical Chemistry C, 2016, 120, 8472-8481.	1.5	68
43	Simulating the Impact of Particle Size Distribution on the Performance of Graphite Electrodes in Lithium-Ion Batteries. Energy Technology, 2016, 4, 1588-1597.	1.8	58
44	Multistep Reaction Mechanisms in Nonaqueous Lithium-Oxygen Batteries with Redox Mediator: A Model-Based Study. Journal of Physical Chemistry C, 2016, 120, 24623-24636.	1.5	28
45	In Situ Monitoring of Fast Li-Ion Conductor Li <sub>7</sub> P <sub>3</sub> S <sub>11</sub> Crystallization Inside a Hot-Press Setup. Chemistry of Materials, 2016, 28, 6152-6165.	3.2	138
46	Ein- oder Zwei-Elektronen-Transfer? - Zur Bestimmung des Entladeprodukts in Natrium-Sauerstoff-Batterien. Angewandte Chemie, 2016, 128, 4716-4726.	1.6	16
47	One-or Two-Electron Transfer? The Ambiguous Nature of the Discharge Products in Sodium-Oxygen Batteries. Angewandte Chemie - International Edition, 2016, 55, 4640-4649.	7.2	108
48	How To Improve Capacity and Cycling Stability for Next Generation Li-O <sub>2</sub> Batteries: Approach with a Solid Electrolyte and Elevated Redox Mediator Concentrations. ACS Applied Materials & Interfaces, 2016, 8, 7756-7765.	4.0	151
49	Numerical simulation of gas-diffusion-electrodes with moving gas-liquid interface: A study on pulse-current operation and electrode flooding. Computers and Chemical Engineering, 2016, 84, 217-225.	2.0	14
50	Redox Mediators in Next Generation Metal-Oxygen Batteries: A Systematic Study on Homogeneous Catalysts for Li-, Na-, and Zn-O <sub>2</sub> Cells. ECS Meeting Abstracts, 2016, , .	0.0	0
51	On the Ambiguous Nature of the Discharge Products in Sodium-Oxygen Batteries: From Theoretical Considerations to Operando XRD Analyses. ECS Meeting Abstracts, 2016, , .	0.0	0
52	Towards Improved Li-O <sub>2</sub> Batteries: Understanding the Role of Dissolved Redox Mediators. ECS Meeting Abstracts, 2016, , .	0.0	0
53	Understanding the fundamentals of redox mediators in Li-O <sub>2</sub> batteries: a case study on nitroxides. Physical Chemistry Chemical Physics, 2015, 17, 31769-31779.	1.3	111
54	Performance of zinc air batteries with added $\text{K}_2\text{CO}_3$ in the alkaline electrolyte. Journal of Applied Electrochemistry, 2015, 45, 427-437.	1.5	52

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55	Analyzing transport paths in the air electrode of a zinc air battery using X-ray tomography. <i>Electrochemistry Communications</i> , 2014, 40, 88-91.	2.3	51
56	<i>In operando</i> monitoring of the state of charge and species distribution in zinc air batteries using X-ray tomography and model-based simulations. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 22273-22280.	1.3	56
57	Model based quantification of air-composition impact on secondary zinc air batteries. <i>Electrochimica Acta</i> , 2014, 117, 541-553.	2.6	55
58	Model-based analysis of anion-exchanger positioning in direct methanol fuel cell systems. <i>Journal of Power Sources</i> , 2014, 262, 364-371.	4.0	1
59	Scenario-based Analysis of Potential and Constraints of Alkaline Electrochemical Cells. <i>Computer Aided Chemical Engineering</i> , 2014, , 1237-1242.	0.3	2
60	Design Strategy for Zinc Anodes with Enhanced Utilization and Retention: Electrodeposited Zinc Oxide on Carbon Mesh Protected by Ionomeric Layers. <i>ACS Applied Energy Materials</i> , 0, , .	2.5	15