Dario R Dekel

List of Publications by Year
in descending order

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111 papers	8,662 citations	50170 46 h-index	46693 89 g-index
113 all docs	113 docs citations	113 times ranked	4148 citing authors

#	Article	IF	Citations
1	Anion-exchange membranes in electrochemical energy systems. Energy and Environmental Science, 2014, 7, 3135-3191.	15.6	1,617
2	Review of cell performance in anion exchange membrane fuel cells. Journal of Power Sources, 2018, 375, 158-169.	4.0	820
3	Anion exchange membrane fuel cells: Current status and remaining challenges. Journal of Power Sources, 2018, 375, 170-184.	4.0	706
4	Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments. Chemical Society Reviews, 2022, 51, 4583-4762.	18.7	453
5	Electrocatalysts for Hydrogen Oxidation Reaction in Alkaline Electrolytes. ACS Catalysis, 2018, 8, 6665-6690.	5.5	289
6	Effect of Water on the Stability of Quaternary Ammonium Groups for Anion Exchange Membrane Fuel Cell Applications. Chemistry of Materials, 2017, 29, 4425-4431.	3.2	282
7	Poly(bis-arylimidazoliums) possessing high hydroxide ion exchange capacity and high alkaline stability. Nature Communications, 2019, 10, 2306.	5.8	239
8	A Pd/Câ€CeO₂ Anode Catalyst for Highâ€Performance Platinumâ€Free Anion Exchange Membrane Fuel Cells. Angewandte Chemie - International Edition, 2016, 55, 6004-6007.	7.2	199
9	The critical relation between chemical stability of cations and water in anion exchange membrane fuel cells environment. Journal of Power Sources, 2018, 375, 351-360.	4.0	179
10	Highly active nanostructured palladium-ceria electrocatalysts for the hydrogen oxidation reaction in alkaline medium. Nano Energy, 2017, 33, 293-305.	8.2	147
11	Water â€" A key parameter in the stability of anion exchange membrane fuel cells. Current Opinion in Electrochemistry, 2018, 9, 173-178.	2.5	146
12	Water Uptake Study of Anion Exchange Membranes. Macromolecules, 2018, 51, 3264-3278.	2.2	141
13	Palladium/nickel bifunctional electrocatalyst for hydrogen oxidation reaction in alkaline membrane fuel cell. Journal of Power Sources, 2016, 304, 332-339.	4.0	137
14	The Effect of Ambient Carbon Dioxide on Anionâ€Exchange Membrane Fuel Cells. ChemSusChem, 2018, 11, 1136-1150.	3.6	137
15	A practical method for measuring the true hydroxide conductivity of anion exchange membranes. Electrochemistry Communications, 2018, 88, 109-113.	2.3	131
16	Chemical stability of poly(phenylene oxide)-based ionomers in an anion exchange-membrane fuel cell environment. Journal of Materials Chemistry A, 2018, 6, 22234-22239.	5.2	105
17	Stability Limits of Ni-Based Hydrogen Oxidation Electrocatalysts for Anion Exchange Membrane Fuel Cells. ACS Catalysis, 2019, 9, 6837-6845.	5.5	102
18	Steady state and transient simulation of anion exchange membrane fuel cells. Journal of Power Sources, 2018, 375, 191-204.	4.0	101

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19	Beyond 1.0ÂW cm^{âˆ’2}Performance without Platinum: The Beginning of a New Era in Anion Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2018, 165, J3039-J3044.	1.3	91
20	Transition-Metal- and Nitrogen-Doped Carbide-Derived Carbon/Carbon Nanotube Composites as Cathode Catalysts for Anion-Exchange Membrane Fuel Cells. ACS Catalysis, 2021, 11, 1920-1931.	5.5	85
21	Predicting performance stability of anion exchange membrane fuel cells. Journal of Power Sources, 2019, 420, 118-123.	4.0	81
22	Hydrogen Oxidation on Ni-Based Electrocatalysts: The Effect of Metal Doping. Catalysts, 2018, 8, 454.	1.6	80
23	Measuring the true hydroxide conductivity of anion exchange membranes. Journal of Membrane Science, 2020, 612, 118461.	4.1	78
24	Impact of carbonation processes in anion exchange membrane fuel cells. Electrochimica Acta, 2018, 263, 433-446.	2.6	77
25	What is Next in Anionâ€Exchange Membrane Water Electrolyzers? Bottlenecks, Benefits, and Future. ChemSusChem, 2022, 15, .	3.6	77
26	A high-temperature anion-exchange membrane fuel cell. Journal of Power Sources Advances, 2020, 5, 100023.	2.6	76
27	Palladium-ceria nanocatalyst for hydrogen oxidation in alkaline media: Optimization of the Pdâ€"CeO2 interface. Nano Energy, 2019, 57, 820-826.	8.2	70
28	Porphyrin Aerogel Catalysts for Oxygen Reduction Reaction in Anionâ€Exchange Membrane Fuel Cells. Advanced Functional Materials, 2021, 31, 2100963.	7.8	70
29	Accelerated Stress Test of Pt/C Nanoparticles in an Interface with an Anion-Exchange Membraneâ€"An Identical-Location Transmission Electron Microscopy Study. ACS Catalysis, 2018, 8, 1278-1286.	5.5	69
30	Bifunctional Oxygen Electrocatalysis on Mixed Metal Phthalocyanine-Modified Carbon Nanotubes Prepared via Pyrolysis. ACS Applied Materials & Interfaces, 2021, 13, 41507-41516.	4.0	65
31	Hydroxide Ion Diffusion in Anion-Exchange Membranes at Low Hydration: Insights from Ab Initio Molecular Dynamics. Chemistry of Materials, 2019, 31, 5778-5787.	3.2	64
32	Self-crosslinked blend alkaline anion exchange membranes with bi-continuous phase separated morphology to enhance ion conductivity. Journal of Membrane Science, 2020, 597, 117769.	4.1	63
33	Effect of CO2 on the properties of anion exchange membranes for fuel cell applications. Journal of Membrane Science, 2019, 586, 140-150.	4.1	61
34	Bicarbonate and chloride anion transport in anion exchange membranes. Journal of Membrane Science, 2016, 514, 125-134.	4.1	60
35	Magnetic-field-oriented mixed-valence-stabilized ferrocenium anion-exchange membranes for fuel cells. Nature Energy, 2022, 7, 329-339.	19.8	60
36	Crosslinked quaternary phosphonium-functionalized poly(ether ether ketone) polymer-based anion-exchange membranes. Journal of Membrane Science, 2021, 626, 119167.	4.1	59

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37	Synthesis of CeO<i>_x</i>â€Decorated Pd/C Catalysts by Controlled Surface Reactions for Hydrogen Oxidation in Anion Exchange Membrane Fuel Cells. Advanced Functional Materials, 2020, 30, 2002087.	7.8	58
38	Multi-scale study on bifunctional Co/Feâ€“Nâ€“C cathode catalyst layers with high active site density for the oxygen reduction reaction. Applied Catalysis B: Environmental, 2021, 299, 120656.	10.8	58
39	Are Radicals Formed During Anion-Exchange Membrane Fuel Cell Operation?. Journal of Physical Chemistry Letters, 2020, 11, 7630-7636.	2.1	57
40	Quantifying the critical effect of water diffusivity in anion exchange membranes for fuel cell applications. Journal of Membrane Science, 2020, 608, 118206.	4.1	57
41	Palladiumâ€“Ceria Catalysts with Enhanced Alkaline Hydrogen Oxidation Activity for Anion Exchange Membrane Fuel Cells. ACS Applied Energy Materials, 2019, 2, 4999-5008.	2.5	56
42	Carbide-Supported PtRu Catalysts for Hydrogen Oxidation Reaction in Alkaline Electrolyte. ACS Catalysis, 2021, 11, 932-947.	5.5	56
43	Surface Adsorption Affects the Performance of Alkaline Anion-Exchange Membrane Fuel Cells. ACS Catalysis, 2018, 8, 9429-9439.	5.5	55
44	Unraveling mysteries of hydrogen electrooxidation in anion exchange membrane fuel cells. Current Opinion in Electrochemistry, 2018, 12, 182-188.	2.5	52
45	Characterization and Chemical Stability of Anion Exchange Membranes Cross-Linked with Polar Electron-Donating Linkers. Journal of the Electrochemical Society, 2015, 162, F1047-F1055.	1.3	50
46	Platinum and Platinum Group Metal-Free Catalysts for Anion Exchange Membrane Fuel Cells. Energies, 2020, 13, 582.	1.6	50
47	Practical <i>ex-Situ</i> Technique To Measure the Chemical Stability of Anion-Exchange Membranes under Conditions Simulating the Fuel Cell Environment. , 2020, 2, 168-173.		48
48	A Pd/Câ€CeO₂ Anode Catalyst for Highâ€Performance Platinumâ€Free Anion Exchange Membrane Fuel Cells. Angewandte Chemie, 2016, 128, 6108-6111.	1.6	47
49	An Anionâ€Exchange Membrane Fuel Cell Containing Only Abundant and Affordable Materials. Energy Technology, 2021, 9, 2000909.	1.8	46
50	Molecular Simulation of Quaternary Ammonium Solutions at Low Hydration Levels. Journal of Physical Chemistry C, 2018, 122, 11204-11213.	1.5	43
51	Improved Hydrogen Oxidation Reaction Activity and Stability of Buried Metal-Oxide Electrocatalyst Interfaces. Chemistry of Materials, 2020, 32, 7716-7724.	3.2	38
52	Alkaline Membrane Fuel Cell (AMFC) Materials and System Improvement - State-of-the-Art. ECS Transactions, 2013, 50, 2051-2052.	0.3	37
53	Electroreduction of oxygen on cobalt phthalocyanine-modified carbide-derived carbon/carbon nanotube composite catalysts. Journal of Solid State Electrochemistry, 2021, 25, 57-71.	1.2	37
54	Increasing the Alkaline Stability of <i>N</i>,<i>N</i>-Diaryl Carbazolium Salts Using Substituent Electronic Effects. ACS Applied Materials & Interfaces, 2020, 12, 49617-49625.	4.0	35

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55	Changes of Anion Exchange Membrane Properties During Chemical Degradation. ACS Applied Polymer Materials, 2020, 2, 360-367.	2.0	35
56	Composite Materials with Combined Electronic and Ionic Properties. Matter, 2019, 1, 959-975.	5.0	32
57	Atomistic Insights into the Hydrogen Oxidation Reaction of Palladium-Ceria Bifunctional Catalysts for Anion-Exchange Membrane Fuel Cells. ACS Catalysis, 2021, 11, 2561-2571.	5.5	30
58	Unexpected hydroxide ion structure and properties at low hydration. Journal of Molecular Liquids, 2020, 313, 113485.	2.3	25
59	A high-temperature anion-exchange membrane fuel cell with a critical raw material-free cathode. Chemical Engineering Journal Advances, 2021, 8, 100153.	2.4	25
60	High-performance radiation grafted anion-exchange membranes for fuel cell applications: Effects of irradiation conditions on ETFE-based membranes properties. Journal of Membrane Science, 2022, 641, 119879.	4.1	25
61	Non-Monotonic Temperature Dependence of Hydroxide Ion Diffusion in Anion Exchange Membranes. Chemistry of Materials, 2022, 34, 2133-2145.	3.2	25
62	Electrospun Ionomeric Fibers with Anion Conducting Properties. Advanced Functional Materials, 2020, 30, 1901733.	7.8	24
63	The critical importance of ionomers on the electrochemical activity of platinum and platinum-free catalysts for anion-exchange membrane fuel cells. Sustainable Energy and Fuels, 2020, 4, 3300-3307.	2.5	21
64	Understanding how single-atom site density drives the performance and durability of PGM-free Feâ€"Nâ€"C cathodes in anion exchange membrane fuel cells. Materials Today Advances, 2021, 12, 100179.	2.5	18
65	Effect of Ammonium Cations on the Diffusivity and Structure of Hydroxide Ions in Low Hydration Media. Journal of Physical Chemistry C, 2019, 123, 27355-27362.	1.5	17
66	Effect of Carbonate Anions on Quaternary Ammonium-Hydroxide Interaction. Journal of Physical Chemistry C, 2019, 123, 15956-15962.	1.5	17
67	A surprising relation between operating temperature and stability of anion exchange membrane fuel cells. Journal of Power Sources Advances, 2021, 11, 100066.	2.6	17
68	Elucidating the role of anion-exchange ionomer conductivity within the cathode catalytic layer of anion-exchange membrane fuel cells. Journal of Power Sources, 2022, 524, 231083.	4.0	17
69	Effect of LDH platelets on the transport properties and carbonation of anion exchange membranes. Electrochimica Acta, 2022, 403, 139713.	2.6	16
70	An Effective Synthesis of N,N-Diphenyl Carbazolium Salts. Synlett, 2018, 29, 1314-1318.	1.0	15
71	Water Content and Ionic Conductivity of Thin Films of Different Anionic Forms of Anion Conducting Ionomers. Journal of Physical Chemistry C, 2020, 124, 23469-23478.	1.5	15
72	Ceria Entrapped Palladium Novel Composites for Hydrogen Oxidation Reaction in Alkaline Medium. Journal of the Electrochemical Society, 2020, 167, 054514.	1.3	15

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73	Recent developments in Pd-CeO2 nano-composite electrocatalysts for anodic reactions in anion exchange membrane fuel cells. Electrochemistry Communications, 2022, 135, 107219.	2.3	15
74	The Reaction Mechanism Between Tetraarylammonium Salts and Hydroxide. European Journal of Organic Chemistry, 2020, 2020, 3161-3168.	1.2	14
75	Isoindolinium Groups as Stable Anion Conductors for Anion-Exchange Membrane Fuel Cells and Electrolyzers. ACS Materials Au, 2022, 2, 367-373.	2.6	14
76	A Simulator for System-Level Analysis of Heat Transfer and Phase Change in Thermal Batteries. Journal of the Electrochemical Society, 2009, 156, A442.	1.3	13
77	Measuring the alkaline stability of anion-exchange membranes. Journal of Electroanalytical Chemistry, 2022, 908, 116112.	1.9	13
78	Electrospun Anion-Conducting Ionomer Fibersâ€"Effect of Humidity on Final Properties. Polymers, 2020, 12, 1020.	2.0	12
79	Ligand Valency Effects on the Alkaline Stability of Metallopolymer Anionâ€Exchange Membranes. Macromolecular Rapid Communications, 2021, 42, e2100238.	2.0	12
80	Effect of the Synthetic Method on the Properties of Ni-Based Hydrogen Oxidation Catalysts. ACS Applied Energy Materials, 2021, 4, 3404-3423.	2.5	11
81	Alkaline Stability of Low Oxophilicity Metallopolymer Anionâ€Exchange Membranes. Chemistry - A European Journal, 2022, 28, .	1.7	10
82	A Model Based Analysis of Alkaline Membrane Fuel Cells. ECS Transactions, 2017, 80, 1051-1057.	0.3	9
83	Alkaline Membrane Fuel Cells, Membranes. , 2014, , 33-45.		8
84	Metal nanoparticles entrapped in metal matrices. Nanoscale Advances, 2021, 3, 4597-4612.	2.2	7
85	Alkaline Membrane Fuel Cells. , 2014, , 26-33.		7
86	Impact of the Relative Humidity on the Performance Stability of Anion Exchange Membrane Fuel Cells Studied by Ion Chromatography. ACS Applied Polymer Materials, 2022, 4, 3962-3970.	2.0	7
87	The impact of carbonation on hydroxide diffusion in nano-confined anion exchange membranes. Journal of Materials Chemistry A, 2022, 10, 11137-11149.	5.2	6
88	Designing the feasible membrane systems for CO2 removal from Air-fed Anion-Exchange membrane fuel cells. Separation and Purification Technology, 2022, 289, 120713.	3.9	4
89	N-Heterocyclic Carbene Ligandsâ€™ Electronic Effects on Metallopolymer Anion Exchange Membranes. Organometallics, 2022, 41, 1419-1425.	1.1	4
90	Surface Acoustic Wave Mitigation of Precipitate Deposition on a Solid Surfaceâ€"An Active Self-Cleaning Strategy. ACS Applied Materials & Interfaces, 2021, 13, 59471-59477.	4.0	3

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91	Transition Metal and Nitrogen-Doped Carbide-Derived Carbon/Carbon Nanotube Composites As Cathode Catalysts for Anion-Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 1213-1213.	0.0	1
92	Communicationâ€"Electropolymerization of Anion-Conducting Polymer Films. Journal of the Electrochemical Society, 0, , .	1.3	1
93	Evaluation of Automatic Microstructural Analysis of Energy Dispersive Spectroscopy (EDS) Maps via a Python-Based Data Processing Framework. ECS Transactions, 2021, 104, 137-153.	0.3	0
94	(Invited) Effect of Water and Carbon Dioxide on Anion-Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2019, , .	0.0	0
95	Palladium-Ceria Nanocatalyst for Hydrogen Oxidation in Alkaline Media: Optimization of the Pd-CeO2 Interface. ECS Meeting Abstracts, 2019, , .	0.0	0
96	Properties and Parameters of Importance for Enhanced Performance and Performance Stability of Anion Exchange Membrane Fuel Cells â€" a Modeling Study. ECS Meeting Abstracts, 2019, , .	0.0	0
97	Hydrogen Oxidation on Ni-Based Electrocatalysts: The Role of the Synthetic Method. ECS Meeting Abstracts, 2020, MA2020-01, 1594-1594.	0.0	0
98	Improving Stability and Kinetics of Alkaline HOR Catalysts â€" Towards Reduced System Cost. ECS Meeting Abstracts, 2020, MA2020-01, 1686-1686.	0.0	0
99	Bifunctional Palladium-Ceria Catalysts for Hydrogen Oxidation Reaction. ECS Meeting Abstracts, 2021, MA2021-02, 1878-1878.	0.0	0
100	(Invited) Anion-Exchange Membrane Fuel Cells â€" The Next Frontier. ECS Meeting Abstracts, 2021, MA2021-02, 1297-1297.	0.0	0
101	Modeling Anion Exchange Membrane Fuel Cell Performance and Its Stability: Validation, High-Temperature Operation and More. ECS Meeting Abstracts, 2021, MA2021-02, 1010-1010.	0.0	0
102	Evaluation of Automatic Microstructural Analysis of Energy Dispersive Spectroscopy (EDS) Maps via a Python-Based Data Processing Framework. ECS Meeting Abstracts, 2021, MA2021-02, 1041-1041.	0.0	0
103	(Invited) Model-based Analysis of Carbonation Effects in Anion Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 1205-1205.	0.0	0
104	Ex-Situ Technique to Measure the Chemical Stability of Anion Exchange Membranes Simulating in-Operando Anion Exchange Membrane Fuel Cell Test Environment. ECS Meeting Abstracts, 2021, MA2021-02, 1136-1136.	0.0	0
105	Heteroatom-Doped Graphites Oxygen Reduction Catalysts for Anion Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 538-538.	0.0	0
106	Improving Stability and Kinetics of Alkaline HOR Catalysts â€" Towards Reduced System Cost. ECS Meeting Abstracts, 2020, MA2020-02, 2381-2381.	0.0	0
107	Characterization of CeO_{x-}decorated Pd/C Catalysts Synthesized By Controlled Surface Reactions for Hydrogen Oxidation in Anion Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2020, MA2020-02, 2110-2110.	0.0	0
108	Why Chemical Stability of Anion-Exchange Membranes Depends on the Hydration of the Aemfcs. ECS Meeting Abstracts, 2021, MA2021-02, 1210-1210.	0.0	0

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109	Elucidating the Role of Anion-Exchange Ionomer Conductivity within the Cathode Catalytic Layer of Anion Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 1204-1204.	0.0	0
110	High-Temperature Anion-Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 1209-1209.	0.0	0
111	Mixed Metal Phthalocyanine-Modified Carbon Nanotubes for Bifunctional Oxygen Reduction and Evolution Reaction. ECS Meeting Abstracts, 2022, MA2022-01, 1375-1375.	0.0	0