Deborah J Myers

List of Publications by Year
in descending order

96 papers	11,369 citations	44069 48 h-index	43889 91 g-index
98 all docs	98 docs citations	98 times ranked	10251 citing authors

#	Article	IF	Citations
1	Scientific Aspects of Polymer Electrolyte Fuel Cell Durability and Degradation. Chemical Reviews, 2007, 107, 3904-3951.	47.7	2,976
2	Activityâ€“Stability Trends for the Oxygen Evolution Reaction on Monometallic Oxides in Acidic Environments. Journal of Physical Chemistry Letters, 2014, 5, 2474-2478.	4.6	569
3	Synthesisâ€“structureâ€“performance correlation for polyanilineâ€“Meâ€“C non-precious metal cathode catalysts for oxygen reduction in fuel cells. Journal of Materials Chemistry, 2011, 21, 11392.	6.7	545
4	New roads and challenges for fuel cells in heavy-duty transportation. Nature Energy, 2021, 6, 462-474.	39.5	480
5	Performance enhancement and degradation mechanism identification of a single-atom Coâ€“Nâ€“C catalyst for proton exchange membrane fuel cells. Nature Catalysis, 2020, 3, 1044-1054.	34.4	443
6	Multitechnique Characterization of a Polyanilineâ€“Ironâ€“Carbon Oxygen Reduction Catalyst. Journal of Physical Chemistry C, 2012, 116, 16001-16013.	3.1	378
7	Chemical vapour deposition of Feâ€“Nâ€“C oxygen reduction catalysts with full utilization of dense Feâ€“N4 sites. Nature Materials, 2021, 20, 1385-1391.	27.5	359
8	Using Surface Segregation To Design Stable Ruâ€Ir Oxides for the Oxygen Evolution Reaction in Acidic Environments. Angewandte Chemie - International Edition, 2014, 53, 14016-14021.	13.8	331
9	Effect of Voltage on Platinum Dissolution. Electrochemical and Solid-State Letters, 2006, 9, A225.	2.2	309
10	Atomically dispersed iron sites with a nitrogenâ€“carbon coating as highly active and durable oxygen reduction catalysts for fuel cells. Nature Energy, 2022, 7, 652-663.	39.5	258
11	Recent developments in catalyst-related PEM fuel cell durability. Current Opinion in Electrochemistry, 2020, 21, 192-200.	4.8	216
12	A carbon-nanotube-supported graphene-rich non-precious metal oxygen reduction catalyst with enhanced performance durability. Chemical Communications, 2013, 49, 3291.	4.1	196
13	Evidence for lithium superoxide-like species in the discharge product of a Liâ€“O2 battery. Physical Chemistry Chemical Physics, 2013, 15, 3764.	2.8	188
14	Evolution Pathway from Iron Compounds to Fe₁(II)â€“N₄ Sites through Gas-Phase Iron during Pyrolysis. Journal of the American Chemical Society, 2020, 142, 1417-1423.	13.7	185
15	Atomically dispersed single iron sites for promoting Pt and Pt₃Co fuel cell catalysts: performance and durability improvements. Energy and Environmental Science, 2021, 14, 4948-4960.	30.8	168
16	Performance Durability of Polyaniline-derived Non-precious Cathode Catalysts. ECS Transactions, 2009, 25, 1299-1311.	0.5	150
17	Stability of iron species in heat-treated polyanilineâ€“ironâ€“carbon polymer electrolyte fuel cell cathode catalysts. Electrochimica Acta, 2013, 110, 282-291.	5.2	138
18	Cyanamide-derived non-precious metal catalyst for oxygen reduction. Electrochemistry Communications, 2010, 12, 1792-1795.	4.7	130

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19	A Robust, Scalable Platform for the Electrochemical Conversion of CO₂ to Formate: Identifying Pathways to Higher Energy Efficiencies. ACS Energy Letters, 2020, 5, 1825-1833.	17.4	126
20	Best Practices and Testing Protocols for Benchmarking ORR Activities of Fuel Cell Electrocatalysts Using Rotating Disk Electrode. Electrocatalysis, 2017, 8, 366-374.	3.0	121
21	ElectroCat: DOE's approach to PGM-free catalyst and electrode R&D. Solid State Ionics, 2018, 319, 68-76.	2.7	121
22	Dynamically Unveiling Metalâ€“Nitrogen Coordination during Thermal Activation to Design Highâ€Efficient Atomically Dispersed CoN₄ Active Sites. Angewandte Chemie - International Edition, 2021, 60, 9516-9526.	13.8	119
23	Colloidal Synthesis and Characterization of Carbon-Supported Pdâˆ’Cu Nanoparticle Oxygen Reduction Electrocatalysts. Chemistry of Materials, 2010, 22, 4144-4152.	6.7	114
24	Using Photoelectron Spectroscopy and Quantum Mechanics to Determine d-Band Energies of Metals for Catalytic Applications. Journal of Physical Chemistry C, 2012, 116, 24016-24026.	3.1	106
25	Degradation Mechanisms of Platinum Nanoparticle Catalysts in Proton Exchange Membrane Fuel Cells: The Role of Particle Size. Chemistry of Materials, 2014, 26, 5540-5548.	6.7	105
26	Impact of Catalyst Ink Dispersing Methodology on Fuel Cell Performance Using in-Situ X-ray Scattering. ACS Applied Energy Materials, 2019, 2, 6417-6427.	5.1	104
27	Bimetallic Pdâ€“Cu Oxygen Reduction Electrocatalysts. Journal of the Electrochemical Society, 2008, 155, B602.	2.9	101
28	Rheological Investigation on the Microstructure of Fuel Cell Catalyst Inks. ACS Applied Materials & Interfaces, 2018, 10, 43610-43622.	8.0	96
29	Elucidating the Dynamic Nature of Fuel Cell Electrodes as a Function of Conditioning: An ex Situ Material Characterization and in Situ Electrochemical Diagnostic Study. ACS Applied Materials & Interfaces, 2019, 11, 45016-45030.	8.0	96
30	Dynamics of Particle Growth and Electrochemical Surface Area Loss due to Platinum Dissolution. Journal of the Electrochemical Society, 2014, 161, F291-F304.	2.9	90
31	Finding Correlations of the Oxygen Reduction Reaction Activity of Transition Metal Catalysts with Parameters Obtained from Quantum Mechanics. Journal of Physical Chemistry C, 2013, 117, 26598-26607.	3.1	89
32	Dictating Pt-Based Electrocatalyst Performance in Polymer Electrolyte Fuel Cells, from Formulation to Application. ACS Applied Materials & Interfaces, 2019, 11, 46953-46964.	8.0	80
33	Hybrid approach combining multiple characterization techniques and simulations for microstructural analysis of proton exchange membrane fuel cell electrodes. Journal of Power Sources, 2017, 344, 62-73.	7.8	77
34	In Situ Anomalous Small-Angle X-ray Scattering Studies of Platinum Nanoparticle Fuel Cell Electrocatalyst Degradation. Journal of the American Chemical Society, 2012, 134, 14823-14833.	13.7	75
35	Thermodynamics and Kinetics of Platinum Dissolution from Carbon-Supported Electrocatalysts in Aqueous Media under Potentiostatic and Potentiodynamic Conditions. Journal of the Electrochemical Society, 2013, 160, F447-F455.	2.9	75
36	In Situ Small-Angle X-ray Scattering Observation of Pt Catalyst Particle Growth During Potential Cycling. Journal of the American Chemical Society, 2008, 130, 8112-8113.	13.7	74

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37	Oxygen Reduction Reaction Electrocatalytic Activity of Glancing Angle Deposited Platinum Nanorod Arrays. Journal of the Electrochemical Society, 2011, 158, B1029.	2.9	67
38	GLAD Ptâ€“Ni Alloy Nanorods for Oxygen Reduction Reaction. ACS Catalysis, 2013, 3, 3123-3132.	11.2	66
39	Durability of Pt-Co Alloy Polymer Electrolyte Fuel Cell Cathode Catalysts under Accelerated Stress Tests. Journal of the Electrochemical Society, 2018, 165, F3166-F3177.	2.9	66
40	Potential Dependence of Pt and Co Dissolution from Platinum-Cobalt Alloy PEFC Catalysts Using Time-Resolved Measurements. Journal of the Electrochemical Society, 2018, 165, F3024-F3035.	2.9	65
41	Elucidation of Fe-N-C electrocatalyst active site functionality via in-situ X-ray absorption and operando determination of oxygen reduction reaction kinetics in a PEFC. Applied Catalysis B: Environmental, 2019, 257, 117929.	20.2	61
42	Utilizing ink composition to tune bulk-electrode gas transport, performance, and operational robustness for a Feâ€“Nâ€“C catalyst in polymer electrolyte fuel cell. Nano Energy, 2020, 75, 104943.	16.0	60
43	Effect of Particle Size and Operating Conditions on Pt3Co PEMFC Cathode Catalyst Durability. Catalysts, 2015, 5, 926-948.	3.5	57
44	Pt Catalyst Degradation in Aqueous and Fuel Cell Environments studied via In-Operando Anomalous Small-Angle X-ray Scattering. Electrochimica Acta, 2015, 173, 223-234.	5.2	57
45	Potentiostatic and Potential Cycling Dissolution of Polycrystalline Platinum and Platinum Nano-Particle Fuel Cell Catalysts. Journal of the Electrochemical Society, 2018, 165, F3178-F3190.	2.9	57
46	A low temperature unitized regenerative fuel cell realizing 60% round trip efficiency and 10â€‰000 cycles of durability for energy storage applications. Energy and Environmental Science, 2020, 13, 2096-2105.	30.8	57
47	Status and challenges for the application of platinum group metal-free catalysts in proton-exchange membrane fuel cells. Current Opinion in Electrochemistry, 2021, 25, 100627.	4.8	54
48	Agglomerates in Polymer Electrolyte Fuel Cell Electrodes: Part I. Structural Characterization. Journal of the Electrochemical Society, 2018, 165, F1051-F1058.	2.9	49
49	Standardized protocols for evaluating platinum group metal-free oxygen reduction reaction electrocatalysts in polymer electrolyte fuel cells. Nature Catalysis, 2022, 5, 455-462.	34.4	47
50	Hierarchical electrode design of highly efficient and stable unitized regenerative fuel cells (URFCs) for long-term energy storage. Energy and Environmental Science, 2020, 13, 4872-4881.	30.8	43
51	Microstructural Analysis and Transport Resistances of Low-Platinum-Loaded PEFC Electrodes. Journal of the Electrochemical Society, 2017, 164, F1596-F1607.	2.9	41
52	Tailoring electrode microstructure via ink content to enable improved rated power performance for platinum cobalt/high surface area carbon based polymer electrolyte fuel cells. Journal of Power Sources, 2021, 482, 228889.	7.8	40
53	Nanoporous Iridium Nanosheets for Polymer Electrolyte Membrane Electrolysis. Advanced Energy Materials, 2021, 11, 2101438.	19.5	40
54	Insight into the Catalytic Mechanism of Bimetallic Platinumâ€“Copper Coreâ€“Shell Nanostructures for Nonaqueous Oxygen Evolution Reactions. Nano Letters, 2016, 16, 781-785.	9.1	39

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55	Effects of Porous Carbon Morphology, Agglomerate Structure and Relative Humidity on Local Oxygen Transport Resistance. Journal of the Electrochemical Society, 2020, 167, 013508.	2.9	39
56	Development of high-performance roll-to-roll-coated gas-diffusion-electrode-based fuel cells. Journal of Power Sources, 2021, 506, 230039.	7.8	36
57	Investigation of the Microstructure and Rheology of Iridium Oxide Catalyst Inks for Low-Temperature Polymer Electrolyte Membrane Water Electrolyzers. ACS Applied Materials & Interfaces, 2019, 11, 45068-45079.	8.0	34
58	Durability of De-Alloyed Platinum-Nickel Cathode Catalyst in Low Platinum Loading Membrane-Electrode Assemblies Subjected to Accelerated Stress Tests. Journal of the Electrochemical Society, 2018, 165, F3316-F3327.	2.9	33
59	Coupling High-Throughput Experiments and Regression Algorithms to Optimize PGM-Free ORR Electrocatalyst Synthesis. ACS Applied Energy Materials, 2020, 3, 9083-9088.	5.1	30
60	In-Operando Anomalous Small-Angle X-Ray Scattering Investigation of Pt₃Co Catalyst Degradation in Aqueous and Fuel Cell Environments. Journal of the Electrochemical Society, 2015, 162, F1487-F1497.	2.9	27
61	Effect of Dispersion Medium Composition and Ionomer Concentration on the Microstructure and Rheology of Feâ€“Nâ€“C Platinum Group Metal-free Catalyst Inks for Polymer Electrolyte Membrane Fuel Cells. Langmuir, 2020, 36, 12247-12260.	3.5	27
62	Electrochemical Degradation of Ptâ€“Ni Nanocatalysts: An Identical Location Aberration-Corrected Scanning Transmission Electron Microscopy Study. Nano Letters, 2019, 19, 46-53.	9.1	25
63	GLAD Cr Nanorods Coated with SAD Pt Thin Film for Oxygen Reduction Reaction. Journal of the Electrochemical Society, 2012, 159, B729-B736.	2.9	23
64	Editorsâ€™ Choiceâ€”Ionomer Side Chain Length and Equivalent Weight Impact on High Current Density Transport Resistances in PEMFC Cathodes. Journal of the Electrochemical Society, 2021, 168, 024518.	2.9	23
65	Dynamically Unveiling Metalâ€“Nitrogen Coordination during Thermal Activation to Design Highâ€Efficient Atomically Dispersed CoN₄ Active Sites. Angewandte Chemie, 2021, 133, 9602-9612.	2.0	21
66	SADâ€“GLAD Ptâ€“Ni@Ni Nanorods as Highly Active Oxygen Reduction Reaction Electrocatalysts. ACS Catalysis, 2016, 6, 3478-3485.	11.2	20
67	Hydrogen: Targeting $1/kg in 1 Decade. Electrochemical Society Interface, 2021, 30, 61-66.	0.4	17
68	The Effect of Na[sup +] Impurities on the Conductivity and Water Uptake of Nafion 115 Polymer Electrolyte Fuel Cell Membranes. Journal of the Electrochemical Society, 2010, 157, B1486.	2.9	16
69	Integration of a high oxygen permeability ionomer into polymer electrolyte membrane fuel cell cathodes for high efficiency and power density. Journal of Power Sources, 2022, 522, 230821.	7.8	15
70	Recreating Fuel Cell Catalyst Degradation in Aqueous Environments for Identical-Location Scanning Transmission Electron Microscopy Studies. ACS Applied Materials & Interfaces, 2022, 14, 20418-20429.	8.0	15
71	Enhanced MEA Performance for PEMFCs under Low Relative Humidity and Low Oxygen Content Conditions via Catalyst Functionalization. Journal of the Electrochemical Society, 2017, 164, F674-F684.	2.9	14
72	Electrolyzer Performance Loss from Accelerated Stress Tests and Corresponding Changes to Catalyst Layers and Interfaces. Journal of the Electrochemical Society, 2022, 169, 054517.	2.9	14

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73	Impact of Carbon Support Structure on the Durability of PtCo Electrocatalysts. Journal of the Electrochemical Society, 2021, 168, 054517.	2.9	13
74	Bimetallic Palladium-Base Metal Nanoparticle Oxygen Reduction Electrocatalysts. ECS Transactions, 2008, 16, 109-119.	0.5	11
75	Degradation of Platinum-Cobalt Alloy PEMFC Cathode Catalysts in Catalyst-Ionomer Inks. Journal of the Electrochemical Society, 2021, 168, 044510.	2.9	11
76	Effect of Cerium, Cobalt and Nickel Contaminants on the Oxygen Reduction Reaction at Platinum Electrodes. ECS Transactions, 2017, 80, 861-867.	0.5	10
77	Stability of Atomically Dispersed Feâ€“Nâ€“C ORR Catalyst in Polymer Electrolyte Fuel Cell Environment. Journal of the Electrochemical Society, 2021, 168, 024513.	2.9	10
78	Single Atomic Iron Site Catalysts via Benign Aqueous Synthesis for Durability Improvement in Proton Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2021, 168, 044501.	2.9	10
79	Prefaceâ€”Focus Issue on Proton Exchange Membrane Fuel Cell (PEMFC) Durability. Journal of the Electrochemical Society, 2018, 165, Y7-Y7.	2.9	9
80	Novel platinum group metal-free catalyst ink deposition system for combinatorial polymer electrolyte fuel cell performance evaluation. Journal of Power Sources, 2020, 480, 228801.	7.8	8
81	Sulfur trioxide electrolysis studies: Implications for the sulfurâ€“iodine thermochemical cycle for hydrogen production. International Journal of Hydrogen Energy, 2012, 37, 11004-11011.	7.1	7
82	Batteries and Fuel Cells: Leading the Way to a Cleaner and Brighter Future. ChemElectroChem, 2015, 2, 1408-1409.	3.4	7
83	Pt-Ni/WC Alloy Nanorods Arrays as ORR Catalyst for PEM Fuel Cells. ECS Transactions, 2017, 80, 919-925.	0.5	6
84	Oxygen Reduction Reaction Activity of Platinum Thin Films with Different Densities. ECS Transactions, 2017, 80, 847-852.	0.5	5
85	(Invited Plenary) Ultrathin Film NSTF ORR Electrocatalysts for PEM Fuel Cells. ECS Transactions, 2017, 80, 659-676.	0.5	4
86	Effect of Particle Size on the Dissolution of Pt₃Co/C and Pt/C PEMFC Electrocatalysts. Journal of the Electrochemical Society, 2021, 168, 054516.	2.9	4
87	Elucidating fuel cell catalyst degradation mechanisms by identical-location transmission electron microscopy. Microscopy and Microanalysis, 2021, 27, 974-976.	0.4	3
88	Reply to â€œComment on â€˜Using Photoelectron Spectroscopy and Quantum Mechanics to Determine d-Band Energies of Metals for Catalytic Applicationsâ€™â€• Journal of Physical Chemistry C, 2013, 117, 6916-6917.	3.1	2
89	In Situ X-Ray and Electrochemical Studies of Solid Oxide Fuel Cell/Electrolyzer Oxygen Electrodes. , 0, , 153-164.		2
90	Resolving Active Sites in Atomically Dispersed Electrocatalysts for Energy Conversion Applications. Microscopy and Microanalysis, 2019, 25, 2066-2067.	0.4	1

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91	Impact of Nickel Ions on the Oxygen Reduction Reaction Kinetics of Pt and on Oxygen Diffusion through Ionomer Thin Films. Journal of the Electrochemical Society, 2021, 168, 064505.	2.9	1
92	Glancing Angle Deposited Platinum Nanorod Arrays for Oxygen Reduction Reaction. Materials Research Society Symposia Proceedings, 2011, 1311, 26201.	0.1	0
93	Oxygen Reduction Reaction Electrocatalytic Activity of SAD-Pt/GLAD-Cr Nanorods. Materials Research Society Symposia Proceedings, 2012, 1446, 66.	0.1	0
94	Frontispiece: Using Surface Segregation To Design Stable Ru-Ir Oxides for the Oxygen Evolution Reaction in Acidic Environments. Angewandte Chemie - International Edition, 2014, 53, n/a-n/a.	13.8	0
95	Exploring the Activity and Stability of Pt-based Catalysts through Analytical Electron Microscopy. Microscopy and Microanalysis, 2018, 24, 1510-1511.	0.4	0
96	(Invited) In Situ and Operando Synchrotron X-Ray Spectroscopy and Scattering Characterization of PEFC Cathode Catalysts. ECS Meeting Abstracts, 2021, MA2021-01, 1962-1962.	0.0	0