Laetitia Dubau

List of Publications by Year
in descending order

73 papers	4,661 citations	94269 37 h-index	102304 66 g-index
74 all docs	74 docs citations	74 times ranked	4805 citing authors

#	ARTICLE	IF	CITATIONS
1	Identification of durable and non-durable FeNx sites in Feâ€“Nâ€“C materials for proton exchange membrane fuel cells. Nature Catalysis, 2021, 4, 10-19.	16.1	368
2	Surface distortion as a unifying concept and descriptor in oxygen reduction reaction electrocatalysis. Nature Materials, 2018, 17, 827-833.	13.3	344
3	Huge Instability of Pt/C Catalysts in Alkaline Medium. ACS Catalysis, 2015, 5, 4819-4824.	5.5	325
4	Carbon Corrosion in Proton-Exchange Membrane Fuel Cells: Effect of the Carbon Structure, the Degradation Protocol, and the Gas Atmosphere. ACS Catalysis, 2015, 5, 2184-2194.	5.5	318
5	A review of <scp>PEM</scp> fuel cell durability: materials degradation, local heterogeneities of aging and possible mitigation strategies. Wiley Interdisciplinary Reviews: Energy and Environment, 2014, 3, 540-560.	1.9	257
6	Carbon Corrosion in Proton-Exchange Membrane Fuel Cells: From Model Experiments to Real-Life Operation in Membrane Electrode Assemblies. ACS Catalysis, 2014, 4, 2258-2267.	5.5	188
7	On the Influence of Oxygen on the Degradation of Feâ€Nâ€C Catalysts. Angewandte Chemie - International Edition, 2020, 59, 3235-3243.	7.2	160
8	Beyond Strain and Ligand Effects: Microstrain-Induced Enhancement of the Oxygen Reduction Reaction Kinetics on Various PtNi/C Nanostructures. ACS Catalysis, 2017, 7, 398-408.	5.5	140
9	On the Influence of Oxygen on the Degradation of Feâ€Nâ€C Catalysts. Angewandte Chemie, 2020, 132, 3261-3269.	1.6	133
10	Tuning the Performance and the Stability of Porous Hollow PtNi/C Nanostructures for the Oxygen Reduction Reaction. ACS Catalysis, 2015, 5, 5333-5341.	5.5	125
11	Degradation heterogeneities induced by repetitive start/stop events in proton exchange membrane fuel cell: Inlet vs. outlet and channel vs. land. Applied Catalysis B: Environmental, 2013, 138-139, 416-426.	10.8	124
12	Probing the structure, the composition and the ORR activity of Pt3Co/C nanocrystallites during a 3422h PEMFC ageing test. Applied Catalysis B: Environmental, 2013, 142-143, 801-808.	10.8	109
13	Defects do Catalysis: CO Monolayer Oxidation and Oxygen Reduction Reaction on Hollow PtNi/C Nanoparticles. ACS Catalysis, 2016, 6, 4673-4684.	5.5	107
14	Physical and Chemical Considerations for Improving Catalytic Activity and Stability of Non-Precious-Metal Oxygen Reduction Reaction Catalysts. ACS Catalysis, 2018, 8, 11264-11276.	5.5	101
15	Degradation Mechanisms of Oxygen Evolution Reaction Electrocatalysts: A Combined Identical-Location Transmission Electron Microscopy and X-ray Photoelectron Spectroscopy Study. ACS Catalysis, 2019, 9, 4688-4698.	5.5	100
16	Degradation of Carbon-Supported Platinum-Group-Metal Electrocatalysts in Alkaline Media Studied by in Situ Fourier Transform Infrared Spectroscopy and Identical-Location Transmission Electron Microscopy. ACS Catalysis, 2019, 9, 5613-5622.	5.5	80
17	Carbon corrosion induced by membrane failure: The weak link of PEMFC long-term performance. International Journal of Hydrogen Energy, 2014, 39, 21902-21914.	3.8	75
18	Benefits and limitations of Pt nanoparticles supported on highly porous antimony-doped tin dioxide aerogel as alternative cathode material for proton-exchange membrane fuel cells. Applied Catalysis B: Environmental, 2017, 201, 381-390.	10.8	70

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19	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
20	Oxygen Evolution Reaction Activity and Stability Benchmarks for Supported and Unsupported IrO_{<i>x</i>} Electrocatalysts. ACS Catalysis, 2021, 11, 4107-4116.	5.5	69
21	Porous Hollow PtNi/C Electrocatalysts: Carbon Support Considerations To Meet Performance and Stability Requirements. ACS Catalysis, 2018, 8, 893-903.	5.5	67
22	A Review on Recent Developments and Prospects for the Oxygen Reduction Reaction on Hollow Ptâ€alloy Nanoparticles. ChemPhysChem, 2018, 19, 1552-1567.	1.0	64
23	Implementing Structural Disorder as a Promising Direction for Improving the Stability of PtNi/C Nanoparticles. ACS Catalysis, 2017, 7, 3072-3081.	5.5	61
24	Top-Down Synthesis of Nanostructured Platinumâ€“Lanthanide Alloy Oxygen Reduction Reaction Catalysts: Pt_{<i>x</i>}Pr/C as an Example. ACS Applied Materials & Interfaces, 2019, 11, 5129-5135.	4.0	60
25	Atomic-scale structure and composition of Pt3Co/C nanocrystallites during real PEMFC operation: A STEMâ€“EELS study. Applied Catalysis B: Environmental, 2014, 152-153, 300-308.	10.8	54
26	Effects of Pd Nanoparticle Size and Solution Reducer Strength on Pd/C Electrocatalyst Stability in Alkaline Electrolyte. Journal of the Electrochemical Society, 2016, 163, F781-F787.	1.3	53
27	Feâ€“Nâ€“C Electrocatalystsâ€™ Durability: Effects of Single Atomsâ€™ Mobility and Clustering. ACS Catalysis, 2021, 11, 484-494.	5.5	53
28	Tailoring the Oxygen Reduction Activity of Pt Nanoparticles through Surface Defects: A Simple Top-Down Approach. ACS Catalysis, 2020, 10, 3131-3142.	5.5	50
29	Manipulating the Corrosion Resistance of SnO₂ Aerogels through Doping for Efficient and Durable Oxygen Evolution Reaction Electrocatalysis in Acidic Media. ACS Catalysis, 2020, 10, 7283-7294.	5.5	49
30	Reversibility of Pt-Skin and Pt-Skeleton Nanostructures in Acidic Media. Journal of Physical Chemistry Letters, 2014, 5, 434-439.	2.1	48
31	Identical-Location Transmission Electron Microscopy Study of Pt/C and Ptâ€“Co/C Nanostructured Electrocatalyst Aging: Effects of Morphological and Compositional Changes on the Oxygen Reduction Reaction Activity. Electrocatalysis, 2013, 4, 104-116.	1.5	44
32	Carbon Corrosion in Protonâ€Exchange Membrane Fuel Cells: Spectrometric Evidence for Ptâ€Catalysed Decarboxylation at Anodeâ€Relevant Potentials. ChemPhysChem, 2019, 20, 3106-3111.	1.0	44
33	Accelerated degradation of Pt3Co/C and Pt/C electrocatalysts studied by identical-location transmission electron microscopy in polymer electrolyte environment. Applied Catalysis B: Environmental, 2015, 176-177, 486-499.	10.8	40
34	Atomic-Scale Snapshots of the Formation and Growth of Hollow PtNi/C Nanocatalysts. Nano Letters, 2017, 17, 2447-2453.	4.5	40
35	Beyond conventional electrocatalysts: hollow nanoparticles for improved and sustainable oxygen reduction reaction activity. Journal of Materials Chemistry A, 2014, 2, 18497-18507.	5.2	39
36	Unveiling the crucial role of temperature on the stability of oxygen reduction reaction electrocatalysts. Electrochemistry Communications, 2016, 63, 65-69.	2.3	39

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37	Insights into the stability of Pt nanoparticles supported on antimony-doped tin oxide in different potential ranges. Electrochimica Acta, 2017, 245, 993-1004.	2.6	37
38	The role of water in the degradation of Pt3Co/C nanoparticles: An Identical Location Transmission Electron Microscopy study in polymer electrolyte environment. Applied Catalysis B: Environmental, 2014, 156-157, 301-306.	10.8	36
39	Probing Surface Oxide Formation and Dissolution on/of Ir Single Crystals via X-ray Photoelectron Spectroscopy and Inductively Coupled Plasma Mass Spectrometry. ACS Catalysis, 2019, 9, 9859-9869.	5.5	36
40	Disclosing Pt-Bimetallic Alloy Nanoparticle Surface Lattice Distortion with Electrochemical Probes. ACS Energy Letters, 2020, 5, 162-169.	8.8	35
41	When cubic nanoparticles get spherical: An Identical Location Transmission Electron Microscopy case study with Pd in alkaline media. Electrochemistry Communications, 2014, 48, 1-4.	2.3	34
42	Closing the loop: life cycle assessment and optimization of a PEMFC platinum-based catalyst recycling process. Green Chemistry, 2020, 22, 1919-1933.	4.6	32
43	The (electro)catalyst|membrane interface in the Proton Exchange Membrane Fuel Cell: Similarities and differences with non-electrochemical Catalytic Membrane Reactors. Catalysis Today, 2010, 156, 76-86.	2.2	31
44	Building Practical Descriptors for Defect Engineering of Electrocatalytic Materials. ACS Catalysis, 2020, 10, 9046-9056.	5.5	30
45	First Insight into Fluorinated Pt/Carbon Aerogels as More Corrosion-Resistant Electrocatalysts for Proton Exchange Membrane Fuel Cell Cathodes. Electrocatalysis, 2015, 6, 521-533.	1.5	27
46	Activity and Durability of Platinum-Based Electrocatalysts Supported on Bare or Fluorinated Nanostructured Carbon Substrates. Journal of the Electrochemical Society, 2018, 165, F3346-F3358.	1.3	27
47	Imaging Heterogeneous Electrocatalyst Stability and Decoupling Degradation Mechanisms in Operating Hydrogen Fuel Cells. ACS Energy Letters, 2021, 6, 2742-2749.	8.8	26
48	Atomic-scale restructuring of hollow PtNi/C electrocatalysts during accelerated stress tests. Catalysis Today, 2016, 262, 146-154.	2.2	25
49	Ubiquitous Borane Fuel Electrooxidation on Pd/C and Pt/C Electrocatalysts: Toward Promising Direct Hydrazineâ€“Borane Fuel Cells. ACS Catalysis, 2018, 8, 3150-3163.	5.5	25
50	Stability of carbon-supported palladium nanoparticles in alkaline media: A case study of graphitized and more amorphous supports. Electrochemistry Communications, 2017, 78, 33-37.	2.3	24
51	Effect of Atomic Vacancies on the Structure and the Electrocatalytic Activity of Ptâ€‑rich/C Nanoparticles: A Combined Experimental and Density Functional Theory Study. ChemCatChem, 2017, 9, 2324-2338.	1.8	23
52	Disentangling the Degradation Pathways of Highly Defective PtNi/C Nanostructures â€“ An Operando Wide and Small Angle X-ray Scattering Study. ACS Catalysis, 2019, 9, 160-167.	5.5	22
53	Electrochemical transformation of Fe-N-C catalysts into iron oxides in alkaline medium and its impact on the oxygen reduction reaction activity. Applied Catalysis B: Environmental, 2022, 311, 121366.	10.8	22
54	Elucidating the Mechanisms Driving the Aging of Porous Hollow PtNi/C Nanoparticles by Means of CO_{ads} Stripping. ACS Applied Materials & Interfaces, 2017, 9, 25298-25307.	4.0	19

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55	Structureâ€“Activity Relationships for the Oxygen Reduction Reaction in Porous Hollow PtNi/C Nanoparticles. ChemElectroChem, 2016, 3, 1591-1600.	1.7	16
56	Utilization of graphitized and fluorinated carbon as platinum nanoparticles supports for application in proton exchange membrane fuel cell cathodes. Journal of Power Sources, 2018, 404, 28-38.	4.0	16
57	Durability of Alternative Metal Oxide Supports for Application at a Proton-Exchange Membrane Fuel Cell Cathodeâ€”Comparison of Antimony- and Niobium-Doped Tin Oxide. Energies, 2020, 13, 403.	1.6	13
58	Anode aging in polymer electrolyte membrane fuel Cells I: Anode monitoring by ElectroChemical impedance spectroscopy. Journal of Power Sources, 2021, 481, 228908.	4.0	12
59	Anode defectsâ€™ propagation in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2022, 520, 230880.	4.0	6
60	Durability of Pt3Co/C Cathodes in a 16 Cells PEMFC Stack: Degradation Mechanisms and Modification of the ORR Electrocatalytic Activity. ECS Transactions, 2010, 33, 407-417.	0.3	5
61	Influence of PEMFC Operating Conditions on the Durability of Pt3Co/C Electrocatalysts. ECS Transactions, 2010, 33, 399-405.	0.3	4
62	A chemical-mechanical ex-situ aging of perfluorosulfonic-acid membranes for fuel cells: Impact on the structure and the functional properties. Journal of Power Sources, 2022, 520, 230911.	4.0	3
63	Heterogeneities of Aging Through-The-Plane of a Proton-Exchange Membrane Fuel Cell Cathode. ECS Transactions, 2011, 41, 827-836.	0.3	2
64	(Invited) Porous Hollow PtNi/C Nanoparticles and Their Many Facets. ECS Transactions, 2017, 80, 731-741.	0.3	2
65	Towards comprehensive understanding of proton-exchange membrane fuel cells using high energy x-rays. JPhys Energy, 2021, 3, 031003.	2.3	2
66	Tools and Electrochemical In Situ and On-Line Characterization Techniques for Nanomaterials. , 2018, , 383-439.		0
67	(Invited) Assessing Corrosion Resistance of Antimony-, Niobium- and Tantalum-Doped Tin Oxide Aerogels As Oxygen Evolution Reaction Catalyst Supports in Acidic Media. ECS Meeting Abstracts, 2020, MA2020-01, 2798-2798.	0.0	0
68	Anode Monitoring By Electrochemical Impedance Spectroscopy in Polymer Electrolyte Membrane Fuel Cells. ECS Meeting Abstracts, 2020, MA2020-01, 1803-1803.	0.0	0
69	(Invited) Optimizing Iridium Utilization for Oxygen Evolution Reaction â€“ Viability of the Supported Ir Oxide Nanoparticles Strategy. ECS Meeting Abstracts, 2020, MA2020-01, 2825-2825.	0.0	0
70	(Invited) Unveiling Changes in Surface Chemistry of Iridium Single Crystals and Metal Oxide Supported IrOx Nanoparticles in Oxygen Evolution Reaction Conditions. ECS Meeting Abstracts, 2020, MA2020-01, 1833-1833.	0.0	0
71	Approaches Towards Improving Zinc-Nickel Batteries Performance. ECS Meeting Abstracts, 2022, MA2022-01, 21-21.	0.0	0
72	Aerogel-Derived Fe-N-C Catalysts for Oxygen Electro-Reduction. Linking Their Pore Structure and PEMFC Performance. ECS Meeting Abstracts, 2022, MA2022-01, 1428-1428.	0.0	0

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73	Unravelling the Influence of Oxygen on the Degradation Mechanisms of Fe-N-C Oxygen Reduction Reaction Catalysts. ECS Meeting Abstracts, 2022, MA2022-01, 2070-2070.	0.0	0