Severin Vierrath

List of Publications by Year
in descending order

41 papers	1,139 citations	361413 20 h-index	395702 33 g-index
45 all docs	45 docs citations	45 times ranked	1370 citing authors

#	Article	IF	Citations
1	Efficient and Stable Low Iridium Loaded Anodes for PEM Water Electrolysis Made Possible by Nanofiber Interlayers. ACS Applied Energy Materials, 2020, 3, 8276-8284.	5.1	106
2	Tailoring the Membraneâ€Electrode Interface in PEM Fuel Cells: A Review and Perspective on Novel Engineering Approaches. Advanced Energy Materials, 2018, 8, 1701257.	19.5	105
3	Allâ€Hydrocarbon MEA for PEM Water Electrolysis Combining Low Hydrogen Crossover and High Efficiency. Advanced Energy Materials, 2020, 10, 1903995.	19.5	88
4	Cerium Oxide Decorated Polymer Nanofibers as Effective Membrane Reinforcement for Durable, Highâ€Performance Fuel Cells. Advanced Energy Materials, 2017, 7, 1602100.	19.5	56
5	The reasons for the high power density of fuel cells fabricated with directly deposited membranes. Journal of Power Sources, 2016, 326, 170-175.	7.8	55
6	Morphology of nanoporous carbon-binder domains in Li-ion batteriesâ€"A FIB-SEM study. Electrochemistry Communications, 2015, 60, 176-179.	4.7	52
7	Membrane Interlayer with Pt Recombination Particles for Reduction of the Anodic Hydrogen Content in PEM Water Electrolysis. Journal of the Electrochemical Society, 2018, 165, F1271-F1277.	2.9	51
8	Optimization of anodic porous transport electrodes for proton exchange membrane water electrolyzers. Journal of Materials Chemistry A, 2019, 7, 26984-26995.	10.3	51
9	Highly Efficient Solar Hydrogen Generationâ€"An Integrated Concept Joining IIIâ€"V Solar Cells with PEM Electrolysis Cells. Energy Technology, 2014, 2, 43-53.	3.8	47
10	Enhancing the quality of the tomography of nanoporous materials for better understanding of polymer electrolyte fuel cell materials. Journal of Power Sources, 2015, 285, 413-417.	7.8	42
11	Electrospun sulfonated poly(ether ketone) nanofibers as proton conductive reinforcement for durable Nafion composite membranes. Journal of Power Sources, 2017, 361, 237-242.	7.8	41
12	A completely spray-coated membrane electrode assembly. Electrochemistry Communications, 2016, 70, 65-68.	4.7	39
13	Three-dimensional microstructure analysis of a polymer electrolyte membrane water electrolyzer anode. Journal of Power Sources, 2018, 393, 62-66.	7.8	38
14	Children with social anxiety disorder show blunted pupillary reactivity and altered eye contact processing in response to emotional faces: Insights from pupillometry and eye movements. Journal of Anxiety Disorders, 2018, 58, 61-69.	3.2	35
15	Improving the water management in anion-exchange membrane fuel cells <i>via</i> ultra-thin, directly deposited solid polymer electrolyte. RSC Advances, 2020, 10, 8645-8652.	3.6	35
16	The effect of ionomer content in catalyst layers in anion-exchange membrane water electrolyzers prepared with reinforced membranes (Aemion+â„¢). Journal of Materials Chemistry A, 2021, 9, 15744-15754.	10.3	35
17	Hydrocarbon-based Pemionâ„¢ proton exchange membrane fuel cells with state-of-the-art performance. Sustainable Energy and Fuels, 2021, 5, 3687-3699.	4.9	34
18	Fully Hydrocarbon Membrane Electrode Assemblies for Proton Exchange Membrane Fuel Cells and Electrolyzers: An Engineering Perspective. Advanced Energy Materials, 2022, 12, .	19.5	34

#	Article	IF	Citations
19	30â€Î¼m thin hexamethyl-p-terphenyl poly(benzimidazolium) anion exchange membrane for vanadium redox flow batteries. Electrochemistry Communications, 2019, 102, 37-40.	4.7	24
20	Impact of Carbon Support Corrosion on Performance Losses in Polymer Electrolyte Membrane Fuel Cells. Journal of the Electrochemical Society, 2019, 166, F956-F962.	2.9	22
21	Towards 3D-lithium ion microbatteries based on silicon/graphite blend anodes using a dispenser printing technique. RSC Advances, 2020, 10, 22440-22448.	3.6	22
22	High surface hierarchical carbon nanowalls synthesized by plasma deposition using an aromatic precursor. Carbon, 2017, 118, 578-587.	10.3	18
23	On the stability of anion exchange membrane fuel cells incorporating polyimidazolium ionene (Aemion+Â®) membranes and ionomers. Sustainable Energy and Fuels, 2022, 6, 3551-3564.	4.9	18
24	Spruce Hard Carbon Anodes for Lithiumâ€Ion Batteries. ChemElectroChem, 2021, 8, 4750-4761.	3.4	17
25	Spatially Resolved Quantification of Ionomer Degradation in Fuel Cells by Confocal Raman Microscopy. Journal of the Electrochemical Society, 2019, 166, F3044-F3051.	2.9	15
26	Influence of carbon substrate on the electrochemical performance of carbon/manganese oxide hybrids in aqueous and organic electrolytes. RSC Advances, 2016, 6, 107163-107179.	3.6	14
27	Local hydration in ionomer composite membranes determined with confocal Raman microscopy. Journal of Membrane Science, 2019, 585, 126-135.	8.2	11
28	Rapid wet-chemical oxidative activation of graphite felt electrodes for vanadium redox flow batteries. RSC Advances, 2021, 11, 32095-32105.	3.6	8
29	Improving the performance of proton exchange membrane water electrolyzers with low Ir-loaded anodes by adding PEDOT:PSS as electrically conductive binder. RSC Advances, 2020, 10, 37923-37927.	3.6	7
30	Performance and stability comparison of Aemionâ„¢ and Aemion+â„¢ membranes for vanadium redox flow batteries. RSC Advances, 2021, 11, 13077-13084.	3.6	7
31	(Invited) Direct Membrane Deposition â€" A Fast and Simple Technique for Membrane Electrode Assembly Manufacturing. ECS Transactions, 2017, 80, 571-576.	0.5	5
32	Water Electrolyzers: Allâ€Hydrocarbon MEA for PEM Water Electrolysis Combining Low Hydrogen Crossover and High Efficiency (Adv. Energy Mater. 14/2020). Advanced Energy Materials, 2020, 10, 2070061.	19.5	3
33	Methodsâ€" A Simple Method to Measure In-Plane Electrical Resistance of PEM Fuel Cell and Electrolyzer Catalyst Layers. Journal of the Electrochemical Society, 2022, 169, 054518.	2.9	2
34	Polymer Electrolyte Fuel Cells Fabricated with Direct Membrane Deposition (DMD). ECS Meeting Abstracts, 2016, MA2016-02, 2553-2553.	0.0	1
35	Fuel Cells: Cerium Oxide Decorated Polymer Nanofibers as Effective Membrane Reinforcement for Durable, Highâ€Performance Fuel Cells (Adv. Energy Mater. 6/2017). Advanced Energy Materials, 2017, 7, .	19.5	0
36	A Monte Carlo Study on the Effect of Structural and Operating Parameters on the Water Distribution within the Microporous Layer and the Catalyst Layer of PEM Fuel Cells. ECS Meeting Abstracts, 2016, , .	0.0	0

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37	(Invited) Tomographic Analysis of Fuel Cell Catalyst Layers - Methods, Challenges and Validity. ECS Meeting Abstracts, 2016, , .	0.0	0
38	(Invited) Direct Membrane Deposition â€“ A Fast and Simple Technique for Membrane Electrode Assembly Manufacturing. ECS Meeting Abstracts, 2017, , .	0.0	0
39	Tomography Aided Development of Membrane Electrode Assemblies for PEM Water Electrolysis. ECS Meeting Abstracts, 2017, , .	0.0	0
40	Characterization of Ionomer Membranes with Confocal Raman Microscopy. ECS Meeting Abstracts, 2020, MA2020-01, 1644-1644.	0.0	0
41	MOF-Derived Fe-Zn-N-C Catalysts for Precious Metal Free Cathodes Showing High Performance in Anion-Exchange Membrane Fuel Cells. ECS Meeting Abstracts, 2022, MA2022-01, 1482-1482.	0.0	0