

Jacob M Lamanna

List of Publications by Year in descending order

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54
papers

1,353
citations

361296

20
h-index

345118

36
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55
all docs

55
docs citations

55
times ranked

1763
citing authors

#	ARTICLE	IF	CITATIONS
1	Beyond catalysis and membranes: visualizing and solving the challenge of electrode water accumulation and flooding in AEMFCs. <i>Energy and Environmental Science</i> , 2018, 11, 551-558.	15.6	229
2	Neutron imaging of hydrogen-rich fluids in geomaterials and engineered porous media: A review. <i>Earth-Science Reviews</i> , 2014, 129, 120-135.	4.0	128
3	Using operando techniques to understand and design high performance and stable alkaline membrane fuel cells. <i>Nature Communications</i> , 2020, 11, 3561.	5.8	113
4	Determination of effective water vapor diffusion coefficient in pemfc gas diffusion layers. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 5021-5029.	3.8	112
5	Plant Growthâ€Promoting Rhizobacteria (PGPR) Reduce Evaporation and Increase Soil Water Retention. <i>Water Resources Research</i> , 2018, 54, 3673-3687.	1.7	110
6	Influence of substrate moisture state and roughness on interface microstructure and bond strength: Slant shear vs. pull-off testing. <i>Cement and Concrete Composites</i> , 2018, 87, 63-72.	4.6	67
7	Direct measurement of through-plane thermal conductivity of partially saturated fuel cell diffusion media. <i>Journal of Power Sources</i> , 2014, 256, 212-219.	4.0	53
8	Neutron imaging detector with 2×2 spatial resolution based on event reconstruction of neutron capture in gadolinium oxysulfide scintillators. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2017, 866, 9-12.	0.7	51
9	Isolation of transport mechanisms in PEFCs using high resolution neutron imaging. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 3387-3396.	3.8	45
10	Neutron and X-ray Tomography (NeXT) system for simultaneous, dual modality tomography. <i>Review of Scientific Instruments</i> , 2017, 88, 113702.	0.6	45
11	Accelerating Bubble Detachment in Porous Transport Layers with Patterned Through-Pores. <i>ACS Applied Energy Materials</i> , 2020, 3, 9676-9684.	2.5	37
12	Far-field interference of a neutron white beam and the applications to noninvasive phase-contrast imaging. <i>Physical Review A</i> , 2017, 95, .	1.0	32
13	Spontaneous imbibition of water and determination of effective contact angles in the Eagle Ford Shale Formation using neutron imaging. <i>Journal of Earth Science (Wuhan, China)</i> , 2017, 28, 874-887.	1.1	32
14	Measurement of capillary pressure in fuel cell diffusion media, micro-porous layers, catalyst layers, and interfaces. <i>Journal of Power Sources</i> , 2014, 271, 180-186.	4.0	31
15	The effect of cathode nitrogen purging on cell performance and in operando neutron imaging of a polymer electrolyte membrane electrolyzer. <i>Electrochimica Acta</i> , 2018, 279, 91-98.	2.6	30
16	Diffusivity and Sorptivity of Berea Sandstone Determined using Neutron Radiography. <i>Vadose Zone Journal</i> , 2013, 12, 1-8.	1.3	26
17	Study of converging-diverging channel induced convective mass transport in a proton exchange membrane fuel cell. <i>Energy Conversion and Management</i> , 2021, 237, 114095.	4.4	25
18	Boosting Membrane Hydration for High Current Densities in Membrane Electrode Assembly CO ₂ Electrolysis. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 54585-54595.	4.0	22

#	ARTICLE	IF	CITATIONS
19	Neutron interferometry detection of early crack formation caused by bending fatigue in additively manufactured SS316 dogbones. <i>Materials and Design</i> , 2018, 140, 420-430.	3.3	21
20	Reconciling temperature-dependent factors affecting mass transport losses in polymer electrolyte membrane electrolyzers. <i>Energy Conversion and Management</i> , 2020, 213, 112797.	4.4	20
21	Through-Plane Water Transport Visualization in a PEMFC by Visible and Infrared Imaging. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, B51.	2.2	19
22	A pseudo-3D model to investigate heat and water transport in large area PEM fuel cells – Part 2: Application on an automotive driving cycle. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 15573-15584.	3.8	13
23	Effect of Membrane Properties on the Carbonation of Anion Exchange Membrane Fuel Cells. <i>Membranes</i> , 2021, 11, 102.	1.4	13
24	Demonstration of Focusing Wolter Mirrors for Neutron Phase and Magnetic Imaging. <i>Journal of Imaging</i> , 2018, 4, 50.	1.7	10
25	NIST NeXT: a system for truly simultaneous neutron and X-ray tomography. , 2020, , .		8
26	Simultaneous Neutron and X-Ray Imaging of 3D Structure of Organic Matter and Fracture in Shales. <i>Petrophysics</i> , 2018, 59, 153-161.	0.2	7
27	Neutron Imaging Detector with Scintillation Light Magnification and Amplification. <i>ECS Transactions</i> , 2016, 75, 245-250.	0.3	6
28	Through-Plane Water Transport Visualization in an Operating PEM Fuel Cell by Visible and Infrared Imaging. <i>ECS Transactions</i> , 2010, 33, 1423-1433.	0.3	5
29	VISUALIZATION OF THE EVAPORATION AND CONDENSATION PHENOMENA IN CRYOGENIC PROPELLANTS. <i>Journal of Flow Visualization and Image Processing</i> , 2016, 23, 137-156.	0.3	5
30	Architecture-Based Control of Temperature Gradient-Driven Water Transport in Polymer Electrolyte Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2020, 167, 104504.	1.3	5
31	Water Imbibition and Oil Recovery in Shale: Dynamics and Mechanisms Using Integrated Centimeter-to-Nanometer-Scale Imaging. <i>SPE Reservoir Evaluation and Engineering</i> , 2023, 26, 51-63.	1.1	5
32	Alternative analytical analysis for improved Loschmidt diffusion cell. <i>International Journal of Heat and Mass Transfer</i> , 2013, 65, 883-892.	2.5	4
33	Isolation of Transport Mechanisms in PEFCs with High Resolution Neutron Imaging. <i>ECS Transactions</i> , 2011, 41, 329-336.	0.3	3
34	Improving material identification by combining x-ray and neutron tomography. , 2017, , .		3
35	A Critical Review of Water Transport Models in Gas Diffusion Media of PEM Fuel Cell. , 2008, , .		2
36	(Invited) Engineering Net Water Balance in Polymer Electrolyte Fuel Cells. <i>ECS Transactions</i> , 2014, 64, 451-458.	0.3	2

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37	Studying water and solute transport through desalination membranes via neutron radiography. <i>Journal of Membrane Science</i> , 2018, 548, 667-675.	4.1	2
38	Investigation of a simulated Chinese jade and bronze dagger-axe by neutron radiography and prompt gamma activation analysis. <i>Journal of Archaeological Science: Reports</i> , 2018, 21, 99-106.	0.2	2
39	Improved Water Management of Electrospun Nanofiber Membrane Electrode Assemblies at High Current Densities Measured in Operando Using Neutron Radiography. <i>ECS Transactions</i> , 2019, 92, 125-134.	0.3	2
40	Water Migration and Swelling in Engineered Barrier Materials for Radioactive Waste Disposal. <i>Nuclear Technology</i> , 2021, 207, 1237-1256.	0.7	2
41	Improved Water Management of Electrospun Nanofiber Membrane Electrode Assemblies at High Current Densities Measured in Operando Using Neutron Radiography. <i>ECS Meeting Abstracts</i> , 2019, MA2019-02, 1403-1403.	0.0	2
42	Investigation of Water Vapor Diffusivity Through GDL of a PEMFC. , 2009, , .		1
43	Feasibility of Thermoelectric Waste Heat Recovery in Large Scale Systems. , 2008, , .		1
44	Improving the Long-Term Operational Stability (>1000h) of AEMFCS By Understanding Water Dynamics through in-Situ Neutron Imaging and X-Ray Computed Tomography. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	1
45	Imaging and Modeling of Passive Water Management in a Miniature Fuel Cell. <i>ECS Transactions</i> , 2019, 92, 395-409.	0.3	0
46	Improved Methods for Simultaneous Neutron and X-Ray Tomography of Operating Fuel Cells. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
47	High Resolution Neutron Imaging Developments for PEMFC, AEMFC, and Electrolyzers. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
48	Neutron Dark-Field Analysis of Commercial Lithium-Ion Batteries. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
49	Imaging and Modeling of Passive Water Management in a Miniature Fuel Cell. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
50	Simultaneous Neutron and X-Ray Tomography for Non-Destructive Characterization of Rechargeable Batteries. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
51	Effect of Fluid Properties on Contact Angles in the Eagle Ford Shale Measured with Spontaneous Imbibition. <i>ACS Omega</i> , 2021, 6, 32618-32630.	1.6	0
52	Contamination Mechanisms of Proton Exchange Membrane Fuel Cells - Mass Transfer Overpotential Origin. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 2195-2195.	0.0	0
53	Lithium Plating Detection in Extremely Fast-Charged Lithium-Ion Batteries Using Simultaneous Neutron and X-Ray Imaging. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 591-591.	0.0	0
54	Fabrication of Black Body Grids by Thick Film Printing for Quantitative Neutron Imaging. <i>Journal of Imaging</i> , 2022, 8, 164.	1.7	0