

# Sung-Dae Yim

## List of Publications by Year in descending order

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27  
papers

787  
citations

623734

14  
h-index

580821

25  
g-index

27  
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27  
docs citations

27  
times ranked

1376  
citing authors

#	ARTICLE	IF	CITATIONS
1	Graphitic Nanoshell/Mesoporous Carbon Nanohybrids as Highly Efficient and Stable Bifunctional Oxygen Electrocatalysts for Rechargeable Aqueous Na <sup>+</sup> Air Batteries. <i>Advanced Energy Materials</i> , 2016, 6, 1501794.	19.5	120
2	Optimization of PtIr electrocatalyst for PEM URFC. <i>International Journal of Hydrogen Energy</i> , 2005, 30, 1345-1350.	7.1	87
3	Optimization of bifunctional electrocatalyst for PEM unitized regenerative fuel cell. <i>Electrochimica Acta</i> , 2004, 50, 713-718.	5.2	86
4	Self-Supported Mesoporous Pt-Based Bimetallic Nanospheres Containing an Intermetallic Phase as Ultrastable Oxygen Reduction Electrocatalysts. <i>Small</i> , 2016, 12, 5347-5353.	10.0	72
5	Synthesis and characterization of multi-block poly(arylene ether sulfone) membranes with highly sulfonated blocks for use in polymer electrolyte membrane fuel cells. <i>Journal of Membrane Science</i> , 2016, 518, 50-59.	8.2	63
6	Tuning electrocatalytic activity of Pt monolayer shell by bimetallic Ir-M (M=Fe, Co, Ni or Cu) cores for the oxygen reduction reaction. <i>Nano Energy</i> , 2016, 29, 261-267.	16.0	61
7	Understanding the mechanism of membrane electrode assembly degradation by carbon corrosion by analyzing the microstructural changes in the cathode catalyst layers and polarization losses in proton exchange membrane fuel cell. <i>Electrochimica Acta</i> , 2012, 83, 294-304.	5.2	56
8	Fabrication of microstructure controlled cathode catalyst layers and their effect on water management in polymer electrolyte fuel cells. <i>Electrochimica Acta</i> , 2011, 56, 9064-9073.	5.2	33
9	Nanostructures of Nafion Film at Platinum/Carbon Surface in Catalyst Layer of PEMFC: Molecular Dynamics Simulation Approach. <i>Journal of Physical Chemistry C</i> , 2020, 124, 21386-21395.	3.1	32
10	Highly Durable Supportless Pt Hollow Spheres Designed for Enhanced Oxygen Transport in Cathode Catalyst Layers of Proton Exchange Membrane Fuel Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 27730-27739.	8.0	27
11	Variations in performance-degradation behavior of Pt/CNF and Pt/C MEAs for the same degree of carbon corrosion. <i>Electrochimica Acta</i> , 2018, 260, 674-683.	5.2	18
12	A rejuvenation process to enhance the durability of low Pt loaded polymer electrolyte membrane fuel cells. <i>Journal of Power Sources</i> , 2018, 396, 345-354.	7.8	18
13	Enhancement of oxygen reduction reaction activities by Pt nanoclusters decorated on ordered mesoporous porphyrinic carbons. <i>Journal of Materials Chemistry A</i> , 2016, 4, 5869-5876.	10.3	17
14	Operating characteristics of 40W-class PEMFC stacks using reformed gas under low humidifying conditions. <i>Journal of Power Sources</i> , 2008, 178, 711-715.	7.8	15
15	Enhancement of Catalytic Activity and Durability of Pt Nanoparticle through Strong Chemical Interaction with Electrically Conductive Support of Magn <sup>+</sup> Phase Titanium Oxide. <i>Nanomaterials</i> , 2021, 11, 829.	4.1	14
16	Performance and durability of sulfonated poly(arylene ether sulfone) membrane-based membrane electrode assemblies fabricated by decal method for polymer electrolyte fuel cells. <i>Electrochimica Acta</i> , 2011, 56, 7732-7739.	5.2	11
17	Designing an ultrathin silica layer for highly durable carbon nanofibers as the carbon support in polymer electrolyte fuel cells. <i>Nanoscale</i> , 2014, 6, 12111-12119.	5.6	11
18	Density Functional Theory Study of Oxygen Reduction on Graphene and Platinum Surfaces of Pt <sup>+</sup> Graphene Hybrids. <i>ACS Applied Nano Materials</i> , 2021, 4, 1067-1075.	5.0	11

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19	Novel catalyst layer synthesized by an in situ sol-gel process with tetraethoxysilane in a Nafion ionomer solution with Pt/C for PEFCs: the effect of self-assembled Nafion-SiO <sub>2</sub> on Pt ORR activity and an increased water content in the polymer membranes. <i>RSC Advances</i> , 2012, 2, 6957.	3.6	9
20	A significant improvement of oxygen diffusion in catalyst layer based on hydrocarbon ionomer containing dimethyl silicone oil for PEM fuel cells. <i>Electrochemistry Communications</i> , 2011, 13, 1313-1316.	4.7	7
21	Characterization of Solvent-Dependent Ink Structure and Catalyst Layer Morphology Based on Ink Sedimentation Dynamics and Catalyst-Ionomer Cast Films. <i>Journal of the Electrochemical Society</i> , 2021, 168, 104506.	2.9	5
22	Rambutan-like CNT-Al <sub>2</sub> O <sub>3</sub> scaffolds for high-performance cathode catalyst layers of polymer electrolyte fuel cells. <i>Journal of Power Sources</i> , 2018, 379, 288-297.	7.8	4
23	Sonochemical gram-scale synthesis of core-shell PdCo@Pt nanoparticle and investigation of post heat-treatment effect for various gas atmospheres. <i>Journal of Alloys and Compounds</i> , 2021, 879, 160441.	5.5	4
24	Synergistic Roles of NO and NO <sub>2</sub> in Selective Catalytic Reduction of NO <sub>x</sub> by NH <sub>3</sub> . <i>Studies in Surface Science and Catalysis</i> , 2006, 159, 441-444.	1.5	3
25	Multiscale simulation approach to investigate the binder distribution in catalyst layers of high-temperature polymer electrolyte membrane fuel cells. <i>Scientific Reports</i> , 2022, 12, 3810.	3.3	3
26	Optimization Method for MEA Performance Considering the Non-Uniformity of Operating Condition in a Large-area Bipolar Plate. <i>New &amp; Renewable Energy</i> , 2021, 17, 50-58.	0.4	0
27	Study on the CO Tolerance of Anode Catalyst Layers with Ionomer Content for Polymer Electrolyte Membrane Fuel Cells. <i>New &amp; Renewable Energy</i> , 2018, 14, 38-45.	0.4	0