

# Tak-Hyoung Lim

## List of Publications by Year in descending order

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101  
papers

2,672  
citations

159585

30  
h-index

223800

46  
g-index

101  
all docs

101  
docs citations

101  
times ranked

2536  
citing authors

#	ARTICLE	IF	CITATIONS
1	A dynamic infiltration technique to synthesize nanolayered cathodes for high performance and robust solid oxide fuel cells. <i>Journal of Energy Chemistry</i> , 2022, 70, 201-210.	12.9	18
2	Controlling cation migration and inter-diffusion across cathode/interlayer/electrolyte interfaces of solid oxide fuel cells: A review. <i>Ceramics International</i> , 2021, 47, 5839-5869.	4.8	55
3	Parametric study on electrodeposition of a nanofibrous LaCoO <sub>3</sub> SOFC cathode. <i>Ceramics International</i> , 2021, 47, 5570-5579.	4.8	11
4	Effect of transition metal doping on the sintering and electrochemical properties of GDC buffer layer in SOFCs. <i>International Journal of Applied Ceramic Technology</i> , 2021, 18, 511-524.	2.1	14
5	Microstructure tailoring of solid oxide electrolysis cell air electrode to boost performance and long-term durability. <i>Chemical Engineering Journal</i> , 2021, 410, 128318.	12.7	29
6	Scaling up syngas production with controllable H <sub>2</sub> /CO ratio in a highly efficient, compact, and durable solid oxide coelectrolysis cell unit-bundle. <i>Applied Energy</i> , 2020, 257, 114036.	10.1	11
7	Effect of applied current density on the degradation behavior of anode-supported flat-tubular solid oxide fuel cells. <i>Journal of the European Ceramic Society</i> , 2020, 40, 1407-1417.	5.7	50
8	Hybrid Electrochemical Deposition Route for the Facile Nanofabrication of a Cr-Poisoning-Tolerant La(Ni,Fe)O <sub>3-δ</sub> Cathode for Solid Oxide Fuel Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 5730-5738.	8.0	22
9	Facile surface modification of LSCF/GDC cathodes by epitaxial deposition of Sm <sub>0.5</sub> Sr <sub>0.5</sub> CoO <sub>3</sub> via ultrasonic spray infiltration. <i>Journal of Materials Chemistry A</i> , 2020, 8, 3967-3977.	10.3	41
10	High Performing and Durable Anode-Supported Solid Oxide Fuel Cell by Using Tape Casting, Lamination and Co-Firing Method. <i>ECS Transactions</i> , 2019, 91, 373-379.	0.5	11
11	Lifetime Prediction of Anode-Supported Solid Oxide Fuel Cell on the Basis of Individual Components Degradation. <i>ECS Transactions</i> , 2019, 91, 621-627.	0.5	9
12	Development of Oxide Dispersed Ferritic Steel as a Solid Oxide Fuel Cell Interconnect. <i>ECS Transactions</i> , 2019, 91, 2307-2312.	0.5	9
13	Highly durable nano-oxide dispersed ferritic stainless steel interconnects for intermediate temperature solid oxide fuel cells. <i>Journal of Power Sources</i> , 2019, 439, 227109.	7.8	11
14	Nano-fabrication of a high-performance LaNiO <sub>3</sub> cathode for solid oxide fuel cells using an electrochemical route. <i>Journal of Power Sources</i> , 2019, 429, 97-104.	7.8	36
15	Thermally self-sustaining operation of tubular solid oxide fuel cells integrated with a hybrid partial oxidation reformer using propane. <i>Energy Conversion and Management</i> , 2019, 189, 132-142.	9.2	15
16	Performance characteristics of a robust and compact propane-fueled 150-W-class SOFC power-generation system. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 6160-6171.	7.1	15
17	Fabrication of Nanofibrous La <sub>1-x</sub> Sr <sub>x</sub> CoO <sub>3</sub> /GDC Composite Cathode Using a Combination of Chemically Assisted Electrodeposition and Infiltration Techniques for Solid Oxide Fuel Cells. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	0
18	Production of syngas from H <sub>2</sub> O/CO <sub>2</sub> by high-pressure coelectrolysis in tubular solid oxide cells. <i>Applied Energy</i> , 2018, 212, 759-770.	10.1	30

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19	A simplified approach to predict performance degradation of a solid oxide fuel cell anode. <i>Journal of Power Sources</i> , 2018, 391, 94-105.	7.8	54
20	High-performance nanofibrous $\text{LaCoO}_3$ perovskite cathode for solid oxide fuel cells fabricated via chemically assisted electrodeposition. <i>Journal of Materials Chemistry A</i> , 2018, 6, 6987-6996.	10.3	43
21	Protective coating based on manganese-copper oxide for solid oxide fuel cell interconnects: Plasma spray coating and performance evaluation. <i>Ceramics International</i> , 2018, 44, 11576-11581.	4.8	44
22	Syngas production in high performing tubular solid oxide cells by using high-temperature $\text{H}_2\text{O}/\text{CO}_2$ co-electrolysis. <i>Chemical Engineering Journal</i> , 2018, 335, 41-51.	12.7	28
23	Hybrid-solid oxide electrolysis cell: A new strategy for efficient hydrogen production. <i>Nano Energy</i> , 2018, 44, 121-126.	16.0	209
24	High-Performance Solid Oxide Fuel Cell with an Electrochemically Surface-Tailored Oxygen Electrode. <i>ChemSusChem</i> , 2018, 11, 2620-2627.	6.8	17
25	Effect of nano- $\text{Al}_2\text{O}_3$ addition on mechanical durability of nickel-yttria stabilized zirconia anode support of solid oxide fuel cells. <i>Ceramics International</i> , 2018, 44, 14824-14833.	4.8	13
26	Improving sulfur tolerance of Ni-YSZ anodes of solid oxide fuel cells by optimization of microstructure and operating conditions. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 11202-11213.	7.1	32
27	Effects of applied current density and thermal cycling on the degradation of a solid oxide fuel cell cathode. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 12346-12357.	7.1	47
28	Conformal bi-layered perovskite/spinel coating on a metallic wire network for solid oxide fuel cells via an electrodeposition-based route. <i>Journal of Power Sources</i> , 2017, 348, 40-47.	7.8	18
29	Nano- $\text{CeO}_2$ and - $\text{LaCrO}_3$ dispersed ferritic stainless steels as potential interconnect materials for solid oxide fuel cells. <i>Journal of Alloys and Compounds</i> , 2017, 709, 453-463.	5.5	35
30	Tailoring Ni-based catalyst by alloying with transition metals (M = Ni, Co, Cu, and Fe) for direct hydrocarbon utilization of energy conversion devices. <i>Electrochimica Acta</i> , 2017, 225, 399-406.	5.2	36
31	Nano-Oxide Dispersed Ferritic Stainless Steel for Metallic Interconnects of Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2017, 78, 1575-1582.	0.5	11
32	Effects of $\text{La}_2\text{O}_3$ content and particle size on the long-term stability and thermal cycling property of $\text{La}_2\text{O}_3$ -dispersed SUS430 alloys for SOFC interconnect materials. <i>Metals and Materials International</i> , 2017, 23, 1250-1256.	3.4	4
33	Structural, Electrical, and Electrochemical Characteristics of $\text{LnBa}_{0.5}\text{Sr}_{0.5}\text{Co}_{1.5}\text{Fe}_{0.5}\text{O}_{5+\delta}$ (Ln=Pr,) <i>TJ</i> 2017, 5, 1337-1343.	1.0	23
34	Fabrication and characterization of $\text{La}_{0.65}\text{Sr}_{0.3}\text{MnO}_{3-\delta}/(\text{Y}_2\text{O}_3)_{0.08}(\text{ZrO}_2)_{0.92}/\text{Gd}_{0.1}\text{Ce}_{0.9}\text{O}_{2-\delta}$ tri-composite cathode-supported tubular direct carbon solid oxide fuel cell. <i>Ceramics International</i> , 2017, 43, 1086-1091.	4.8	6
35	Evaluation of steady-state characteristics for solid oxide carbon fuel cell short-stacks. <i>Applied Energy</i> , 2017, 187, 886-898.	10.1	11
36	Effect of reverse Boudouard reaction catalyst on the performance of solid oxide carbon fuel cells integrated with a dry gasifier. <i>Energy Conversion and Management</i> , 2016, 130, 119-129.	9.2	21

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37	Development of a stand-alone steam methane reformer for on-site hydrogen production. International Journal of Hydrogen Energy, 2016, 41, 8176-8183.	7.1	27
38	Performance evaluation of solid oxide carbon fuel cells operating on steam gasified carbon fuels. Chemical Engineering Journal, 2016, 300, 384-393.	12.7	15
39	Long-term performance degradation study of solid oxide carbon fuel cells integrated with a steam gasifier. Energy, 2016, 113, 1051-1061.	8.8	15
40	Electrophoretically Deposited LaNi <sub>0.6</sub> Fe <sub>0.4</sub> O <sub>3</sub> Perovskite Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2016, 163, F1245-F1250.	2.9	8
41	Facile Synthesis of Ca-Doped LaCoO <sub>3</sub> Perovskite via Chemically Assisted Electrodeposition as a Protective Film on Solid Oxide Fuel Cell Interconnects. Journal of the Electrochemical Society, 2016, 163, F1066-F1071.	2.9	11
42	Investigation of a Layered Perovskite for IT-SOFC Cathodes: B-Site Fe-Doped YBa <sub>0.5</sub> Sr <sub>0.5</sub> Co <sub>2-x</sub> Fe <sub>x</sub> O <sub>5+δ</sub> . Journal of the Electrochemical Society, 2016, 163, F1489-F1495.	2.9	10
43	Effect of GDC addition method on the properties of LSM-YSZ composite cathode support for solid oxide fuel cells. Ceramics International, 2016, 42, 11772-11779.	4.8	26
44	Electrochemical performance of H <sub>2</sub> O-CO <sub>2</sub> coelectrolysis with a tubular solid oxide coelectrolysis (SOC) cell. International Journal of Hydrogen Energy, 2016, 41, 7530-7537.	7.1	9
45	Effect of GDC interlayer thickness on durability of solid oxide fuel cell cathode. Ceramics International, 2016, 42, 6978-6984.	4.8	43
46	Fundamental mechanisms involved in the degradation of nickel-yttria stabilized zirconia (Ni-YSZ) anode during solid oxide fuel cells operation: A review. Ceramics International, 2016, 42, 35-48.	4.8	176
47	A Study on Sintering Inhibition of La <sub>0.8</sub> Sr <sub>0.2</sub> MnO <sub>3-δ</sub> , Cathode Material for Cathode-Supported Fuel Cells. Journal of the Korean Ceramic Society, 2016, 53, 494-499.	2.3	3
48	Effect of infiltrated transition metals on nickel morphology change and area-specific resistance of Ni-YSZ based SOFC anode during long-term operation. Journal of Electroceramics, 2015, 35, 81-89.	2.0	3
49	A Perovskite-Type Lanthanum Cobaltite Thin Film Synthesized via an Electrochemical Route and Its Application in SOFC Interconnects. Journal of the Electrochemical Society, 2015, 162, F1549-F1554.	2.9	20
50	Effect of various sintering inhibitors on the long term performance of Ni-YSZ anodes used for SOFCs. International Journal of Hydrogen Energy, 2015, 40, 11968-11975.	7.1	25
51	Correlation between fast oxygen kinetics and enhanced performance in Fe doped layered perovskite cathodes for solid oxide fuel cells. Journal of Materials Chemistry A, 2015, 3, 15082-15090.	10.3	48
52	Effect of cathode geometry on the electrochemical performance of flat tubular segmented-in-series(SIS) solid oxide fuel cell. International Journal of Hydrogen Energy, 2015, 40, 6207-6215.	7.1	15
53	The kinetics of steam methane reforming over a Ni <sup>3+</sup> -Al <sub>2</sub> O <sub>3</sub> catalyst for the development of small stationary reformers. International Journal of Hydrogen Energy, 2015, 40, 4512-4518.	7.1	32
54	Design of a dual-layer ceramic interconnect based on perovskite oxides for segmented-in-series solid oxide fuel cells. Journal of Power Sources, 2015, 300, 318-324.	7.8	25

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55	Lanthanum Nickelates with a Perovskite Structure as Protective Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. <i>Journal of the Korean Ceramic Society</i> , 2015, 52, 344-349.	2.3	4
56	Performance and Durability of Anode-Supported Flat-Tubular Solid Oxide Fuel Cells with Ag-Infiltrated Cathodes. <i>Journal of Nanoscience and Nanotechnology</i> , 2014, 14, 7668-7673.	0.9	11
57	Effect of GDC interlayer on the degradation of solid oxide fuel cell cathode during accelerated current load cycling. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 20799-20805.	7.1	45
58	Durable power performance of a direct ash-free coal fuel cell. <i>Electrochimica Acta</i> , 2014, 115, 511-517.	5.2	55
59	(Mn,Cu)3O4-based conductive coatings as effective barriers to high-temperature oxidation of metallic interconnects for solid oxide fuel cells. <i>Journal of Solid State Electrochemistry</i> , 2014, 18, 445-452.	2.5	31
60	Development of novel LSM/GDC composite and electrochemical characterization of LSM/GDC based cathode-supported direct carbon fuel cells. <i>Journal of Solid State Electrochemistry</i> , 2014, 18, 435-443.	2.5	16
61	Growth of Thin-Film Layered Perovskite Cathodes by Pulsed Laser Deposition and their Electrochemical Studies in IT-SOFCs. <i>Journal of the Electrochemical Society</i> , 2014, 161, F698-F702.	2.9	9
62	Enhancing Sulfur Tolerance of a Ni-YSZ Anode through BaZr <sub>0.1</sub> Ce <sub>0.7</sub> Y <sub>0.1</sub> Yb <sub>0.1</sub> O <sub>3</sub> Infiltration. <i>Journal of the Electrochemical Society</i> , 2014, 161, F668-F673.	2.9	29
63	Fabrication and operating characteristics of a flat tubular segmented-in-series solid oxide fuel cell unit bundle. <i>Energy</i> , 2014, 72, 215-221.	8.8	15
64	A performance study of hybrid direct carbon fuel cells: Impact of anode microstructure. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 11749-11755.	7.1	31
65	Electrochemical properties of B-site Ni doped layered perovskite cathodes for IT-SOFCs. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 20791-20798.	7.1	22
66	Performance characteristic of a tubular carbon-based fuel cell short stack coupled with a dry carbon gasifier. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 12395-12401.	7.1	7
67	Ceramic Materials for Interconnects in Solid Oxide Fuel Cells - A Review. <i>Journal of the Korean Ceramic Society</i> , 2014, 51, 231-242.	2.3	1
68	Urchin-like $\gamma$ -MnO <sub>2</sub> decorated with Au and Pd as a bi-functional catalyst for rechargeable lithium-oxygen batteries. <i>Journal of Power Sources</i> , 2013, 244, 328-335.	7.8	58
69	Electrochemical properties of an ordered perovskite LaBaCo <sub>2</sub> O <sub>5</sub> + $\delta$ Ce <sub>0.9</sub> Gd <sub>0.1</sub> O <sub>2</sub> composite cathode with strontium doping for intermediate-temperature solid oxide fuel cells. <i>Electrochemistry Communications</i> , 2013, 34, 5-8.	4.7	27
70	Comparative characterization of thermodynamic, electrical, and electrochemical properties of Sm <sub>0.5</sub> Sr <sub>0.5</sub> Co <sub>1-x</sub> Nb <sub>x</sub> O <sub>3</sub> (x=0, 0.05, and 0.1) as cathode materials in intermediate temperature solid oxide fuel cells. <i>Journal of Power Sources</i> , 2013, 226, 1-7.	7.8	28
71	A tubular segmented-in-series solid oxide fuel cell with metallic interconnect films: A performance study through mathematical simulations. <i>Current Applied Physics</i> , 2013, 13, 1906-1913.	2.4	7
72	Cu- and Ni-doped Mn <sub>1.5</sub> Co <sub>1.5</sub> O <sub>4</sub> spinel coatings on metallic interconnects for solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 12043-12050.	7.1	87

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73	Operating Characteristics of a Tubular Direct Carbon Fuel Cell Based on a General Anode Support Solid Oxide Fuel Cell. <i>Industrial &amp; Engineering Chemistry Research</i> , 2013, 52, 15466-15471.	3.7	15
74	Carbon-free cobalt oxide cathodes with tunable nanoarchitectures for rechargeable lithium-oxygen batteries. <i>Chemical Communications</i> , 2013, 49, 5984.	4.1	98
75	Fabrication and Operation of Tubular Segmented-In-Series (SIS) Solid Oxide Fuel Cells (SOFC). <i>Fuel Cells</i> , 2012, 12, 1099-1103.	2.4	26
76	Intermediate-temperature nickel-yttria stabilized zirconia supported tubular solid oxide fuel cells using gadolinia-doped ceria electrolyte. <i>Journal of Power Sources</i> , 2012, 218, 119-127.	7.8	13
77	La-doped SrTiO <sub>3</sub> interconnect materials for anode-supported flat-tubular solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 4319-4327.	7.1	38
78	A flat-tubular solid oxide fuel cell with a dense interconnect film coated on the porous anode support. <i>Journal of Power Sources</i> , 2012, 213, 218-222.	7.8	25
79	Evaluation of Micro-Tubular SOFC: Cell Performance with respect to Current Collecting Method. <i>Transactions of the Korean Hydrogen and New Energy Society</i> , 2012, 23, 43-48.	0.6	1
80	Development of Anode-Supported Flat-Tube Solid Oxide Fuel Cell (SOFC) Stack with High Power Density. <i>ECS Transactions</i> , 2011, 35, 327-332.	0.5	5
81	Effect of glass contents on the electrical and sintering property of La <sub>0.8</sub> Ca <sub>0.2</sub> CrO <sub>3</sub> /glass composite interconnects for solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 13735-13740.	7.1	10
82	Induction brazing for gas sealing of anode-supported tubular solid oxide fuel cells using the nickel based brazing alloy modified by TiH <sub>2</sub> . <i>International Journal of Hydrogen Energy</i> , 2011, 36, 1890-1896.	7.1	10
83	Characteristic of (La <sub>0.8</sub> Sr <sub>0.2</sub> ) <sub>0.98</sub> MnO <sub>3</sub> coating on Crofer22APU used as metallic interconnects for solid oxide fuel cell. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 1868-1881.	7.1	34
84	Redox-induced performance degradation of anode-supported tubular solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 797-804.	7.1	53
85	Operation Characteristics of Tubular Segmented-In-Series Solid Oxide Fuel Cells (SOFC). <i>ECS Transactions</i> , 2011, 35, 679-682.	0.5	0
86	Lanthanum Chromite Based Ceramic and Glass Composite Interconnects for Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2011, 35, 2547-2552.	0.5	0
87	Synthesis and Electrical Properties of Strontium Titanate-Based Materials for Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2011, 35, 2553-2559.	0.5	0
88	La <sub>0.8</sub> Ca <sub>0.2</sub> CrO <sub>3</sub> Interconnect Materials for Solid Oxide Fuel Cells: Combustion Synthesis and Reduced-Temperature Sintering. <i>Journal of Electrochemical Science and Technology</i> , 2011, 2, 39-44.	2.2	1
89	Effect of fabrication parameters on coating properties of tubular solid oxide fuel cell electrolyte prepared by vacuum slurry coating. <i>Journal of Power Sources</i> , 2010, 195, 1779-1785.	7.8	29
90	Fabrication and operation of a 1 kW class anode-supported flat tubular SOFC stack. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 9687-9692.	7.1	47

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91	Effect of Conducting Oxide Coatings on Crofer22APU Used as Metallic Interconnects for Solid Oxide Fuel Cells. , 2009, , .		0
92	Operating characteristics of a 5kW class anode-supported planar SOFC stack for a fuel cell/gas turbine hybrid system. International Journal of Hydrogen Energy, 2008, 33, 1076-1076.	7.1	38
93	Development of a 700W anode-supported micro-tubular SOFC stack for APU applications. International Journal of Hydrogen Energy, 2008, 33, 2330-2336.	7.1	74
94	Removal of Volatile Organic Compounds (VOCs) by Photocatalytic Reaction in a Circulating Fluidized Bed (CFB) Photoreactor. Journal of Chemical Engineering of Japan, 2008, 41, 695-699.	0.6	2
95	Effect of Anode Support Thickness on the Performance of Tubular SOFCs. ECS Transactions, 2007, 7, 543-549.	0.5	4
96	Development of Anode Supported Micro-Tubular SOFC Stack for APU Application. ECS Transactions, 2007, 7, 187-191.	0.5	10
97	Operating Characteristics of Advanced 500W Class Anode-supported Flat Tubular SOFC stack in KIER. ECS Transactions, 2007, 7, 193-197.	0.5	1
98	Co-synthesis of nano-sized LSMâ€“YSZ composites with enhanced electrochemical property. Journal of Solid State Electrochemistry, 2007, 11, 1385-1390.	2.5	29
99	Properties of Cu, Ni, and V doped-LaCrO 3 interconnect materials prepared by pechini, ultrasonic spray pyrolysis and glycine nitrate processes for SOFC. Journal of Electroceramics, 2006, 17, 723-727.	2.0	21
100	Photocatalytic degradation of trichloroethylene over TiO2/SiO2 in an annulus fluidized bed reactor. Korean Journal of Chemical Engineering, 2002, 19, 1072-1077.	2.7	27
101	Degradation Characteristics of NO by Photocatalysis with TiO2 and CuO/TiO2. Reaction Kinetics and Catalysis Letters, 2000, 71, 223-229.	0.6	18