# Rak-Hyun Song

List of Publications by Year
in descending order

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|---|---|---|---|
| 91 papers | 2,330 citations | 172457 29 h-index | 254184 43 g-index |
| 91 all docs | 91 docs citations | 91 times ranked | 1900 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Fundamental mechanisms involved in the degradation of nickelâ€“yttria stabilized zirconia (Niâ€“YSZ) anode during solid oxide fuel cells operation: A review. Ceramics International, 2016, 42, 35-48. | 4.8 | 176 |
| 2 | Fabrication and characteristics of anode-supported flat-tube solid oxide fuel cell. Journal of Power Sources, 2003, 122, 138-143. | 7.8 | 93 |
| 3 | Cu- and Ni-doped Mn1.5Co1.5O4 spinel coatings on metallic interconnects for solid oxide fuel cells. International Journal of Hydrogen Energy, 2013, 38, 12043-12050. | 7.1 | 87 |
| 4 | 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 |
| 5 | Preparation and characterization of strontium and magnesium doped lanthanum gallates as the electrolyte for IT-SOFC. Journal of Power Sources, 2007, 166, 35-40. | 7.8 | 64 |
| 6 | Durable power performance of a direct ash-free coal fuel cell. Electrochimica Acta, 2014, 115, 511-517. | 5.2 | 55 |
| 7 | Controlling cation migration and inter-diffusion across cathode/interlayer/electrolyte interfaces of solid oxide fuel cells: A review. Ceramics International, 2021, 47, 5839-5869. | 4.8 | 55 |
| 8 | A simplified approach to predict performance degradation of a solid oxide fuel cell anode. Journal of Power Sources, 2018, 391, 94-105. | 7.8 | 54 |
| 9 | Redox-induced performance degradation of anode-supported tubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2011, 36, 797-804. | 7.1 | 53 |
| 10 | Niâ€“YSZ-supported tubular solid oxide fuel cells with GDC interlayer between YSZ electrolyte and LSCF cathode. International Journal of Hydrogen Energy, 2014, 39, 12894-12903. | 7.1 | 50 |
| 11 | Effect of applied current density on the degradation behavior of anode-supported flat-tubular solid oxide fuel cells. Journal of the European Ceramic Society, 2020, 40, 1407-1417. | 5.7 | 50 |
| 12 | Effects of flow rate and starvation of reactant gases on the performance of phosphoric acid fuel cells. Journal of Power Sources, 2000, 86, 289-293. | 7.8 | 48 |
| 13 | Fabrication and operation of a 1ÂkW class anode-supported flat tubular SOFC stack. International Journal of Hydrogen Energy, 2010, 35, 9687-9692. | 7.1 | 47 |
| 14 | Effects of applied current density and thermal cycling on the degradation of a solid oxide fuel cell cathode. International Journal of Hydrogen Energy, 2018, 43, 12346-12357. | 7.1 | 47 |
| 15 | Effect of GDC interlayer on the degradation of solid oxide fuel cell cathode during accelerated current load cycling. International Journal of Hydrogen Energy, 2014, 39, 20799-20805. | 7.1 | 45 |
| 16 | Protective coating based on manganeseâ€“copper oxide for solid oxide fuel cell interconnects: Plasma spray coating and performance evaluation. Ceramics International, 2018, 44, 11576-11581. | 4.8 | 44 |
| 17 | Effect of GDC interlayer thickness on durability of solid oxide fuel cell cathode. Ceramics International, 2016, 42, 6978-6984. | 4.8 | 43 |
| 18 | High-performance nanofibrous LaCoO<sub>3</sub> perovskite cathode for solid oxide fuel cells fabricated via chemically assisted electrodeposition. Journal of Materials Chemistry A, 2018, 6, 6987-6996. | 10.3 | 43 |

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| 19 | 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. Journal of Materials Chemistry A, 2020, 8, 3967-3977. | 10.3 | 41 |
| 20 | La-doped SrTiO3 interconnect materials for anode-supported flat-tubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2012, 37, 4319-4327. | 7.1 | 38 |
| 21 | Nano-fabrication of a high-performance LaNiO3 cathode for solid oxide fuel cells using an electrochemical route. Journal of Power Sources, 2019, 429, 97-104. | 7.8 | 36 |
| 22 | Nano-CeO 2 and -LaCrO 3 dispersed ferritic stainless steels as potential interconnect materials for solid oxide fuel cells. Journal of Alloys and Compounds, 2017, 709, 453-463. | 5.5 | 35 |
| 23 | Characteristic of (La0.8Sr0.2)0.98MnO3 coating on Crofer22APU used as metallic interconnects for solid oxide fuel cell. International Journal of Hydrogen Energy, 2011, 36, 1868-1881. | 7.1 | 34 |
| 24 | Improving sulfur tolerance of Ni-YSZ anodes ofÂsolid oxide fuel cells by optimization of microstructure and operating conditions. International Journal of Hydrogen Energy, 2018, 43, 11202-11213. | 7.1 | 32 |
| 25 | (Mn,Cu)3O4-based conductive coatings as effective barriers to high-temperature oxidation of metallic interconnects for solid oxide fuel cells. Journal of Solid State Electrochemistry, 2014, 18, 445-452. | 2.5 | 31 |
| 26 | A performance study of hybrid direct carbon fuel cells: Impact of anode microstructure. International Journal of Hydrogen Energy, 2014, 39, 11749-11755. | 7.1 | 31 |
| 27 | Production of syngas from H2O/CO2 by high-pressure coelectrolysis in tubular solid oxide cells. Applied Energy, 2018, 212, 759-770. | 10.1 | 30 |
| 28 | Effect of fabrication parameters on coating properties of tubular solid oxide fuel cell electrolyte prepared by vacuum slurry coating. Journal of Power Sources, 2010, 195, 1779-1785. | 7.8 | 29 |
| 29 | Microstructure tailoring of solid oxide electrolysis cell air electrode to boost performance and long-term durability. Chemical Engineering Journal, 2021, 410, 128318. | 12.7 | 29 |
| 30 | Syngas production in high performing tubular solid oxide cells by using high-temperature H2O/CO2 co-electrolysis. Chemical Engineering Journal, 2018, 335, 41-51. | 12.7 | 28 |
| 31 | Fabrication of anode-supported tubular Ba(Zr0.1Ce0.7Y0.2)O3â^'Î´ cell for intermediate temperature solid oxide fuel cells. Ceramics International, 2014, 40, 1513-1518. | 4.8 | 26 |
| 32 | Effect of GDC addition method on the properties of LSMâ€“YSZ composite cathode support for solid oxide fuel cells. Ceramics International, 2016, 42, 11772-11779. | 4.8 | 26 |
| 33 | Flat-tubular solid oxide fuel cells and stacks: a review. Journal of Asian Ceramic Societies, 2021, 9, 745-770. | 2.3 | 26 |
| 34 | A flat-tubular solid oxide fuel cell with a dense interconnect film coated on theÂporous anode support. Journal of Power Sources, 2012, 213, 218-222. | 7.8 | 25 |
| 35 | 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 |
| 36 | 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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| 37 | Degradation of cathode current-collecting materials for anode-supported flat-tube solid oxide fuel cell. Journal of Power Sources, 2009, 188, 447-452. | 7.8 | 22 |
| 38 | Hybrid Electrochemical Deposition Route for the Facile Nanofabrication of a Cr-Poisoning-Tolerant La(Ni,Fe)O<sub>3â^'Î´</sub> Cathode for Solid Oxide Fuel Cells. ACS Applied Materials & Interfaces, 2020, 12, 5730-5738. | 8.0 | 22 |
| 39 | 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 |
| 40 | Effect of reverse Boudouard reaction catalyst on the performance of solid oxide carbon fuel cells integrated with a dry gasifier. Energy Conversion and Management, 2016, 130, 119-129. | 9.2 | 21 |
| 41 | Performance of strontium- and magnesium-doped lanthanum gallate electrolyte with lanthanum-doped ceria as a buffer layer for IT-SOFCs. Journal of Power Sources, 2008, 185, 207-211. | 7.8 | 20 |
| 42 | 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 |
| 43 | Effect of silicon carbide particle size in the electrolyte matrix on the performance of a phosphoric acid fuel cell. Journal of Power Sources, 2002, 106, 167-172. | 7.8 | 19 |
| 44 | Conformal bi-layered perovskite/spinel coating on a metallic wire network for solid oxide fuel cells via an electrodeposition-based route. Journal of Power Sources, 2017, 348, 40-47. | 7.8 | 18 |
| 45 | A dynamic infiltration technique to synthesize nanolayered cathodes for high performance and robust solid oxide fuel cells. Journal of Energy Chemistry, 2022, 70, 201-210. | 12.9 | 18 |
| 46 | Boosting performance of the solid oxide fuel cell by facile nano-tailoring of La0.6Sr0.4CoO3-Î´ cathode. International Journal of Hydrogen Energy, 2022, 47, 37587-37598. | 7.1 | 18 |
| 47 | Effect of hydrogen on impedance of the passivating film on iron. Journal of Applied Electrochemistry, 1991, 21, 181-183. | 2.9 | 17 |
| 48 | Highâ€Performance Solid Oxide Fuel Cell with an Electrochemically Surfaceâ€Tailored Oxygen Electrode. ChemSusChem, 2018, 11, 2620-2627. | 6.8 | 17 |
| 49 | Electrosprayed Polymer-Hybridized Multidoped ZnO Mesoscopic Nanocrystals Yield Highly Efficient and Stable Perovskite Solar Cells. ACS Omega, 2018, 3, 9648-9657. | 3.5 | 17 |
| 50 | Characterization and performance analysis of silicon carbide electrolyte matrix of phosphoric acid fuel cell prepared by ball-milling method. Journal of Power Sources, 2002, 107, 98-102. | 7.8 | 16 |
| 51 | Development of novel LSM/GDC composite and electrochemical characterization of LSM/GDC based cathode-supported direct carbon fuel cells. Journal of Solid State Electrochemistry, 2014, 18, 435-443. | 2.5 | 16 |
| 52 | Operating Characteristics of a Tubular Direct Carbon Fuel Cell Based on a General Anode Support Solid Oxide Fuel Cell. Industrial & Engineering Chemistry Research, 2013, 52, 15466-15471. | 3.7 | 15 |
| 53 | Fabrication and operating characteristics of a flat tubular segmented-in-series solid oxide fuel cell unit bundle. Energy, 2014, 72, 215-221. | 8.8 | 15 |
| 54 | 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 |

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| 55 | Performance evaluation of solid oxide carbon fuel cells operating on steam gasified carbon fuels. Chemical Engineering Journal, 2016, 300, 384-393. | 12.7 | 15 |
| 56 | Long-term performance degradation study of solid oxide carbon fuel cells integrated with a steam gasifier. Energy, 2016, 113, 1051-1061. | 8.8 | 15 |
| 57 | Thermally self-sustaining operation of tubular solid oxide fuel cells integrated with a hybrid partial oxidation reformer using propane. Energy Conversion and Management, 2019, 189, 132-142. | 9.2 | 15 |
| 58 | Performance characteristics of a robust and compact propane-fueled 150ÂW-class SOFC power-generation system. International Journal of Hydrogen Energy, 2019, 44, 6160-6171. | 7.1 | 15 |
| 59 | Preparation of highly porous NiOâ€“gadolinium-doped ceria nano-composite powders by one-pot glycine nitrate process for anode-supported tubular solid oxide fuel cells. Journal of Asian Ceramic Societies, 2014, 2, 339-346. | 2.3 | 14 |
| 60 | Effect of transition metal doping on the sintering and electrochemical properties of GDC buffer layer in SOFCs. International Journal of Applied Ceramic Technology, 2021, 18, 511-524. | 2.1 | 14 |
| 61 | Synthesis and sintering properties of (La0.8Ca0.2â^'x Sr x )CrO3 perovskite materials for SOFC interconnect. Journal of Electroceramics, 2006, 17, 729-733. | 2.0 | 13 |
| 62 | Intermediate-temperature nickelâ€“yttria stabilized zirconia supported tubular solid oxide fuel cells using gadolinia-doped ceria electrolyte. Journal of Power Sources, 2012, 218, 119-127. | 7.8 | 13 |
| 63 | Thin films of nanostructured ZnO used as an electron-transporting material for improved performance of perovskite solar cells. Applied Physics A: Materials Science and Processing, 2018, 124, 1. | 2.3 | 13 |
| 64 | Effect of nano-Al2O3 addition on mechanical durability of nickel-yttria stabilized zirconia anode support of solid oxide fuel cells. Ceramics International, 2018, 44, 14824-14833. | 4.8 | 13 |
| 65 | Performance and Durability of Anode-Supported Flat-Tubular Solid Oxide Fuel Cells with Ag-Infiltrated Cathodes. Journal of Nanoscience and Nanotechnology, 2014, 14, 7668-7673. | 0.9 | 11 |
| 66 | 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 |
| 67 | Nano-Oxide Dispersed Ferritic Stainless Steel for Metallic Interconnects of Solid Oxide Fuel Cells. ECS Transactions, 2017, 78, 1575-1582. | 0.5 | 11 |
| 68 | Evaluation of steady-state characteristics for solid oxide carbon fuel cell short-stacks. Applied Energy, 2017, 187, 886-898. | 10.1 | 11 |
| 69 | Highly durable nano-oxide dispersed ferritic stainless steel interconnects for intermediate temperature solid oxide fuel cells. Journal of Power Sources, 2019, 439, 227109. | 7.8 | 11 |
| 70 | Scaling up syngas production with controllable H2/CO ratio in a highly efficient, compact, and durable solid oxide coelectrolysis cell unit-bundle. Applied Energy, 2020, 257, 114036. | 10.1 | 11 |
| 71 | Parametric study on electrodeposition of a nanofibrous LaCoO3 SOFC cathode. Ceramics International, 2021, 47, 5570-5579. | 4.8 | 11 |
| 72 | Development of Anode Supported Micro-Tubular SOFC Stack for APU Application. ECS Transactions, 2007, 7, 187-191. | 0.5 | 10 |

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| 73 | Effect of glass contents on the electrical and sintering property of La0.8Ca0.2CrO3/glass composite interconnects for solid oxide fuel cells. International Journal of Hydrogen Energy, 2011, 36, 13735-13740. | 7.1 | 10 |
| 74 | Induction brazing for gas sealing of anode-supported tubular solid oxide fuel cells using the nickel based brazing alloy modified by TiH2. International Journal of Hydrogen Energy, 2011, 36, 1890-1896. | 7.1 | 10 |
| 75 | New method of electrode fabrication for phosphoric acid fuel cell. International Journal of Hydrogen Energy, 1998, 23, 1049-1053. | 7.1 | 9 |
| 76 | Electrochemical performance of H2Oâ€“CO2 coelectrolysis with a tubular solid oxide coelectrolysis (SOC) cell. International Journal of Hydrogen Energy, 2016, 41, 7530-7537. | 7.1 | 9 |
| 77 | Lifetime Prediction of Anode-Supported Solid Oxide Fuel Cell on the Basis of Individual Components Degradation. ECS Transactions, 2019, 91, 621-627. | 0.5 | 9 |
| 78 | Recent Activities of Solid Oxide Fuel Cell Research in the 3D Printing Processes. Transactions of the Korean Hydrogen and New Energy Society, 2021, 32, 11-40. | 0.6 | 9 |
| 79 | Electrophoretically Deposited LaNi0.6Fe0.4O3Perovskite Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2016, 163, F1245-F1250. | 2.9 | 8 |
| 80 | A tubular segmented-in-series solid oxide fuel cell with metallic interconnect films: A performance study through mathematical simulations. Current Applied Physics, 2013, 13, 1906-1913. | 2.4 | 7 |
| 81 | Performance characteristic of a tubular carbon-based fuel cell short stack coupled withÂaÂdry carbon gasifier. International Journal of Hydrogen Energy, 2014, 39, 12395-12401. | 7.1 | 7 |
| 82 | Fabrication and characterization of La 0.65 Sr 0.3 MnO 3â˜Î´ /(Y 2 O 3 ) 0.08 (ZrO 2 ) 0.92 /Gd 0.1 Ce 0.9 O 2â˜Î´ tri-composite cathode-supported tubular direct carbon solid oxide fuel cell. Ceramics International, 2017, 43, 1086-1091. | 4.8 | 6 |
| 83 | Efficient and robust ceramic interconnects based on a mixed-cation perovskite for solid oxide fuel cells. Ceramics International, 2019, 45, 4902-4908. | 4.8 | 5 |
| 84 | Lanthanum Nickelates with a Perovskite Structure as Protective Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. Journal of the Korean Ceramic Society, 2015, 52, 344-349. | 2.3 | 4 |
| 85 | 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 |
| 86 | Joining of Metallic Cap and Anode-Supported Tubular Solid Oxide Fuel Cell by Induction Brazing Process. Journal of Fuel Cell Science and Technology, 2009, 6, . | 0.8 | 2 |
| 87 | Evaluation of Micro-Tubular SOFC: Cell Performance with respect to Current Collecting Method. Transactions of the Korean Hydrogen and New Energy Society, 2012, 23, 43-48. | 0.6 | 1 |
| 88 | La0.8Ca0.2CrO3Interconnect Materials for Solid Oxide Fuel Cells: Combustion Synthesis and Reduced-Temperature Sintering. Journal of Electrochemical Science and Technology, 2011, 2, 39-44. | 2.2 | 1 |
| 89 | Ceramic Materials for Interconnects in Solid Oxide Fuel Cells - A Review. Journal of the Korean Ceramic Society, 2014, 51, 231-242. | 2.3 | 1 |
| 90 | STUDY ON CERAMIC INTERCONNECT MANUFACTURED BY SLURRY DIP COATING AND PLASMA SPRAY COATING PROCESSES. , 2004, , 261-269. | | 0 |

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| 91 | Fabrication of Nanofibrous La1-XSrxCoO3/GDC Composite Cathode Using a Combination of Chemically Assisted Electrodeposition and Infiltration Techniques for Solid Oxide Fuel Cells. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |