Miguel A Laguna-Bercero

List of Publications by Year
in descending order

87 papers	2,862 citations	201674 27 h-index	175258 52 g-index
88 all docs	88 docs citations	88 times ranked	2564 citing authors

#	Article	IF	Citations
1	Recent advances in high temperature electrolysis using solid oxide fuel cells: A review. Journal of Power Sources, 2012, 203, 4-16.	7.8	825
2	Electrolyte degradation in anode supported microtubular yttria stabilized zirconia-based solid oxide steam electrolysis cells at high voltages of operation. Journal of Power Sources, 2011, 196, 8942-8947.	7.8	131
3	Performance of solid oxide electrolysis cells based on scandia stabilised zirconia. Journal of Power Sources, 2009, 192, 126-131.	7.8	105
4	Performance and Characterization of (La, Sr)MnO3/YSZ and La0.6Sr0.4Co0.2Fe0.8O3 Electrodes for Solid Oxide Electrolysis Cells. Chemistry of Materials, 2010, 22, 1134-1141.	6.7	92
5	Raman spectroscopic study of cation disorder in poly- and single crystals of the nickel aluminate spinel. Journal of Physics Condensed Matter, 2007, 19, 186217.	1.8	88
6	Improved stability of reversible solid oxide cells with a nickelate-based oxygen electrode. Journal of Materials Chemistry A, 2016, 4, 1446-1453.	10.3	83
7	Development of oxygen electrodes for reversible solid oxide fuel cells with scandia stabilized zirconia electrolytes. Solid State Ionics, 2011, 192, 501-504.	2.7	68
8	Performance of La_{2â€“}_{<i>x</i>}Sr_{<i>x</i>}Co_{0.5}Ni_{0.5}O_{4Â±Î´} as an Oxygen Electrode for Solid Oxide Reversible Cells. Fuel Cells, 2011, 11, 102-107.	2.4	61
9	Performance and Aging of Microtubular YSZâ€based Solid Oxide Regenerative Fuel Cells. Fuel Cells, 2011, 11, 116-123.	2.4	60
10	High performance of microtubular solid oxide fuel cells using Nd₂NiO_{4+Î´}-based composite cathodes. Journal of Materials Chemistry A, 2014, 2, 9764-9770.	10.3	55
11	Tailoring the electrode-electrolyte interface of Solid Oxide Fuel Cells (SOFC) by laser micro-patterning to improve their electrochemical performance. Journal of Power Sources, 2017, 360, 336-344.	7.8	53
12	The effect of electrode infiltration on the performance of tubular solid oxide fuel cells under electrolysis and fuel cell modes. International Journal of Hydrogen Energy, 2014, 39, 8002-8008.	7.1	49
13	Design of industrially scalable microtubular solid oxide fuel cells based on an extruded support. International Journal of Hydrogen Energy, 2014, 39, 5470-5476.	7.1	49
14	Investigation of Graded La[sub 2]NiO[sub 4+Î´] Cathodes to Improve SOFC Electrochemical Performance. Journal of the Electrochemical Society, 2010, 157, B477.	2.9	46
15	Reversible operation of microtubular solid oxide cells using La0.6Sr0.4Co0.2Fe0.8O3-Î´-Ce0.9Gd0.1O2-Î´ oxygen electrodes. Journal of Power Sources, 2018, 378, 184-189.	7.8	46
16	Steam Electrolysis Using a Microtubular Solid Oxide Fuel Cell. Journal of the Electrochemical Society, 2010, 157, B852.	2.9	45
17	Structured porous Ni- and Co-YSZ cermets fabricated from directionally solidified eutectic composites. Journal of the European Ceramic Society, 2005, 25, 1455-1462.	5.7	43
18	Fabrication Methods and Performance in Fuel Cell and Steam Electrolysis Operation Modes of Small Tubular Solid Oxide Fuel Cells: A Review. Frontiers in Energy Research, 2014, 2, .	2.3	43

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19	Micro-spectroscopic study of the degradation of scandia and ceria stabilized zirconia electrolytes in solid oxide electrolysis cells. International Journal of Hydrogen Energy, 2011, 36, 13051-13058.	7.1	39
20	Stability of Channeled Ni-YSZ Cermets Produced from Self-Assembled NiO-YSZ Directionally Solidified Eutectics. Journal of the American Ceramic Society, 2005, 88, 3215-3217.	3.8	37
21	Tailoring the Microstructure of a Solid Oxide Fuel Cell Anode Support by Calcination and Milling of YSZ. Scientific Reports, 2016, 6, 27359.	3.3	35
22	Effects of using (La0.8Sr0.2)0.95Fe0.6Mn0.3Co0.1O3 (LSFMC), LaNi0.6Fe0.4O3âˆ’Î´ (LNF) and LaNi0.6Co0.4O3âˆ’Î´ (LNC) as contact materials on solid oxide fuel cells. Journal of Power Sources, 2014, 248, 1067-1076.	7.8	34
23	New supraicosahedral metallacarboranes. The synthesis and molecular structures of 4-dppe-4,1,6-closo-NiC2B10H12 and [4-(Î·-C3H5)-4-(CO)2-4,1,6-closo-MoC2B10H12]âˆ’. Inorganica Chimica Acta, 2003, 347, 161-167.	2.4	32
24	YSZ-Induced Crystallographic Reorientation of Ni Particles in Ni?YSZ Cermets. Journal of the American Ceramic Society, 2007, 90, 2954-2960.	3.8	29
25	Self-Supporting Thin Yttria-Stabilised Zirconia Electrolytes for Solid Oxide Fuel Cells Prepared by Laser Machining. Journal of the Electrochemical Society, 2011, 158, B1193.	2.9	29
26	Microtubular solid oxide fuel cells with lanthanum strontium manganite infiltrated cathodes. International Journal of Hydrogen Energy, 2015, 40, 5469-5474.	7.1	29
27	Redox-cycling studies of anode-supported microtubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2012, 37, 7262-7270.	7.1	27
28	Characterization of laser-processed thin ceramic membranes for electrolyte-supported solid oxide fuel cells. International Journal of Hydrogen Energy, 2017, 42, 13939-13948.	7.1	27
29	Optimization of laser-patterned YSZ-LSM composite cathode-electrolyte interfaces for solid oxide fuel cells. Journal of the European Ceramic Society, 2019, 39, 3466-3474.	5.7	27
30	Directionally solidified calcia stabilised zirconiaâ€“nickel oxide plates in anode supported solid oxide fuel cells. Journal of the European Ceramic Society, 2004, 24, 1349-1353.	5.7	24
31	Controlled Ag-TiO 2 heterojunction obtained by combining physical vapor deposition and bifunctional surface modifiers. Journal of Physics and Chemistry of Solids, 2018, 119, 147-156.	4.0	24
32	Longâ€Term Stability Studies of Anodeâ€Supported Microtubular Solid Oxide Fuel Cells. Fuel Cells, 2013, 13, 1116-1122.	2.4	22
33	Electrochemical performance of intermediate temperature micro-tubular solid oxide fuel cells using porous ceria barrier layers. Ceramics International, 2015, 41, 7651-7660.	4.8	22
34	Solid State Tuning of TiO₂ Morphology, Crystal Phase, and Size through Metal Macromolecular Complexes and Its Significance in the Photocatalytic Response. ACS Applied Energy Materials, 2018, 1, 3159-3170.	5.1	22
35	Synthesis and magnetic properties of nanostructured metallic Co, Mn and Ni oxide materials obtained from solid-state metal-macromolecular complex precursors. RSC Advances, 2017, 7, 27729-27736.	3.6	21
36	SOFC cathodic layers using wet powder spraying technique with self synthesized nanopowders. International Journal of Hydrogen Energy, 2019, 44, 7555-7563.	7.1	20

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37	LaNi0.6Co0 4O3â^' dip-coated on Feâ€"Cr mesh as a composite cathode contact material on intermediate solid oxide fuel cells. Journal of Power Sources, 2014, 269, 509-519.	7.8	19
38	High-performance Niâ€"YSZ thin-walled microtubes for anode-supported solid oxide fuel cells obtained by powder extrusion moulding. RSC Advances, 2016, 6, 19007-19015.	3.6	19
39	Orientation relationships and interfaces in directionally solidified eutectics for solid oxide fuel cell anodes. Journal of the European Ceramic Society, 2014, 34, 2123-2132.	5.7	18
40	LaNb0.84W0.16O4.08 as a novel electrolyte for high temperature fuel cell and solid oxide electrolysis applications. Solid State Ionics, 2014, 262, 298-302.	2.7	18
41	The effect of anode support on the electrochemical performance of microtubular solid oxide fuel cells fabricated by gel-casting. RSC Advances, 2015, 5, 39350-39357.	3.6	18
42	Highly stable microtubular cells for portable solid oxide fuel cell applications. Electrochimica Acta, 2016, 222, 1622-1627.	5.2	18
43	Microtubular solid oxide fuel cells fabricated by gel-casting: the role of supporting microstructure on the mechanical properties. RSC Advances, 2017, 7, 17620-17628.	3.6	18
44	Crystallography and thermal stability of textured Co-YSZ cermets from eutectic precursors. Journal of the European Ceramic Society, 2008, 28, 2325-2329.	5.7	17
45	Influence of Anode Functional Layers on Electrochemical Performance and Mechanical Strength in Microtubular Solid Oxide Fuel Cells Fabricated by Gel-Casting. ACS Applied Energy Materials, 2018, 1, 2024-2031.	5.1	17
46	The effect of pore-former morphology on the electrochemical performance of solid oxide fuel cells under combined fuel cell and electrolysis modes. Electrochimica Acta, 2018, 268, 195-201.	5.2	16
47	Functionalization of Gold Nanostars with Cationic Î²-Cyclodextrin-Based Polymer for Drug Co-Loading and SERS Monitoring. Pharmaceutics, 2021, 13, 261.	4.5	15
48	Scalable synthetic method for SOFC compounds. Solid State Ionics, 2017, 313, 52-57.	2.7	12
49	TiO2/SiO2 Composite for Efficient Protection of UVA and UVB Rays Through of a Solvent-Less Synthesis. Journal of Cluster Science, 2019, 30, 1511-1517.	3.3	12
50	Reversible operation performance of microtubular solid oxide cells with a nickelate-based oxygen electrode. International Journal of Hydrogen Energy, 2020, 45, 5535-5542.	7.1	12
51	Solid-State Preparation of Metal and Metal Oxides Nanostructures and Their Application in Environmental Remediation. International Journal of Molecular Sciences, 2022, 23, 1093.	4.1	12
52	Advanced metal oxide infiltrated electrodes for boosting the performance of solid oxide cells. Journal of Materials Chemistry A, 2022, 10, 2541-2549.	10.3	12
53	Optimization of Niâ€"YSZ solid oxide fuel cell anodes by surface laser melting. Applied Surface Science, 2015, 335, 39-43.	6.1	11
54	YSZ Thin Films Deposited on NiO-CSZ Anodes by Pulsed Injection MOCVD for Intermediate Temperature-SOFC Applications. Chemical Vapor Deposition, 2004, 10, 249-252.	1.3	10

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55	Iridium nanostructured metal oxide, its inclusion in silica matrix and their activity toward photodegradation of methylene blue. Materials Chemistry and Physics, 2020, 252, 123276.	4.0	10
56	Electrochemical Performance of Nd_{1.95}NiO_{4+Î´} Cathode supported Microtubular Solid Oxide Fuel Cells. Fuel Cells, 2015, 15, 98-104.	2.4	9
57	The influence of the reducing conditions on the final microstructure and performance of nickel-yttria stabilized zirconia cermets. Electrochimica Acta, 2016, 221, 41-47.	5.2	9
58	Does grain size have an influence on intrinsic mechanical properties and conduction mechanism of near fully-dense boron carbide ceramics?. Journal of Alloys and Compounds, 2019, 795, 408-415.	5.5	9
59	Mechanical properties of highly textured porous Niâ€"YSZ and Coâ€"YSZ cermets produced from directionally solidified eutectics. Ceramics International, 2011, 37, 3123-3131.	4.8	8
60	Fabrication and Characterization of Graded Anodes for Anode-Supported Solid Oxide Fuel Cells by Tape Casting and Lamination. Electrocatalysis, 2014, 5, 273-278.	3.0	8
61	Incorporation of Nanostructured ReO3 in Silica Matrix and Their Activity Toward Photodegradation of Blue Methylene. Journal of Inorganic and Organometallic Polymers and Materials, 2020, 30, 1726-1734.	3.7	8
62	Incorporation of NiO into SiO2, TiO2, Al2O3, and Na4.2Ca2.8(Si6O18) Matrices: Medium Effect on the Optical Properties and Catalytic Degradation of Methylene Blue. Nanomaterials, 2020, 10, 2470.	4.1	8
63	Orientation relationship and interfaces in Ni and Co-YSZ cermets prepared from directionally solidified eutectics. Open Physics, 2009, 7, .	1.7	7
64	Effect of synthesis conditions on electrical and catalytical properties of perovskites with high value of A-site cation size mismatch. International Journal of Hydrogen Energy, 2016, 41, 19810-19818.	7.1	7
65	Laser processing of ceramic materials for electrochemical and high temperature energy applications. Boletin De La Sociedad Espanola De Ceramica Y Vidrio, 2022, 61, S19-S39.	1.9	6
66	Combustion synthesis and characterization of Ln1â^'xMxCr0.9Ni0.1O3 (Ln = La and/or Nd; M = Sr and/or) Tj ETQq0 0 0 rgBT /Overlock 1	4.8	5
67	Development of Advanced Nickelate-Based Oxygen Electrodes for Solid Oxide Cells. ECS Transactions, 2019, 91, 2409-2416.	0.5	5
68	Interfacial stability and ionic conductivity enhanced by dopant segregation in eutectic ceramics: the role of Gd segregation in doped CeO₂/CoO and CeO₂/NiO interfaces. Journal of Materials Chemistry A, 2020, 8, 2591-2601.	10.3	5
69	Solventless Preparation of Thoria and Its Inclusion into SiO₂ and TiO₂: A Luminescence and Photocatalysis Study. ACS Omega, 2021, 6, 9391-9400.	3.5	5
70	Selective photocatalytic conversion of guaiacol using g-C3N4 metal free nanosheets photocatalyst to add-value products. Journal of Photochemistry and Photobiology A: Chemistry, 2021, 421, 113513.	3.9	5
71	CO₂ and steam electrolysis using a microtubular solid oxide cell. JPhys Energy, 2020, 2, 014005.	5.3	4
72	Role of Î²-CD Macromolecule Anchored to Î±-Fe₂O₃/TiO₂ on the Selectivity and Partial Oxidation of Guaiacol to Add-Value Products. ACS Sustainable Chemistry and Engineering, 2021, 9, 11427-11438.	6.7	4

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73	The Influence of Reduction Conditions on a Ni-YSZ SOFC Anode Microstructure and Evolution. ECS Transactions, 2015, 68, 1229-1235.	0.5	3
74	Bimetallic Au//Ag Alloys Inside SiO2 Using a Solid-State Method. Journal of Cluster Science, 2017, 28, 2809-2815.	3.3	3
75	Cation-driven electrical conductivity in Ta-doped orthorhombic zirconia ceramics. Ceramics International, 2021, 47, 7248-7252.	4.8	3
76	Investigations of Graded Cathodes to Improve SOFC Electrochemical Performances. ECS Transactions, 2009, 25, 2565-2571.	0.5	2
77	Effect of the synthesis conditions on the properties of La0.15Sm0.35Sr0.08Ba0.42FeO3â^'Î´ cathode material for SOFCs. Powder Technology, 2017, 322, 131-139.	4.2	2
78	INCORPORATION OF AU AND AG NANOSTRUCTURES INSIDE SIO2. Journal of the Chilean Chemical Society, 2019, 64, 4502-4506.	1.2	2
79	High Efficiency Reversible Solid Oxide Microtubular Fuel Cells. ECS Transactions, 2009, 25, 865-872.	0.5	1
80	Modelling and Performance of a Microtubular YSZ-Based Anode Supported Solid Oxide Fuel Cell Stack and Power Module. Energy Procedia, 2012, 29, 166-176.	1.8	1
81	Fabrication and Microstructure of Self-Supporting Thin Ceramic Electrolytes Prepared by Laser Machining. ECS Transactions, 2015, 68, 2129-2139.	0.5	1
82	Insights of the formation mechanism of nanostructured titanium oxide polymorphs from different macromolecular metal-complex precursors. Heliyon, 2021, 7, e07684.	3.2	1
83	Ni and Co-ZrO2 Composites Produced by Laser Zone Melting. Ceramic Engineering and Science Proceedings, 0, , 181-186.	0.1	1
84	Self-Supported Thin Yttria-Stabilized Zirconia Electrolytes for Solid Oxide Fuel Cells Prepared by Laser Machining. ECS Transactions, 2011, 35, 1193-1202.	0.5	0
85	Laser machining of YSZ ceramics for solid oxide fuel cells (SOFC). , 2017, , .		0
86	Performance Analysis of SOFC with Electrode-Electrolyte Interface Tailored by Laser Micro-Machining. ECS Transactions, 2019, 91, 2105-2114.	0.5	0
87	Laser Patterning of Electrode-Electrolyte Interfaces of Solid Oxide Fuel Cells (SOFCs). , 2019, , .		0