

Miguel A Laguna-Bercero

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81 papers	2,160 citations	24 h-index	45 g-index
88 ext. papers	2,523 ext. citations	5 avg, IF	5.68 L-index

#	Paper	IF	Citations
81	Recent advances in high temperature electrolysis using solid oxide fuel cells: A review. <i>Journal of Power Sources</i> , 2012 , 203, 4-16	8.9	620
80	Electrolyte degradation in anode supported microtubular yttria stabilized zirconia-based solid oxide steam electrolysis cells at high voltages of operation. <i>Journal of Power Sources</i> , 2011 , 196, 8942-8947	8.9	108
79	Performance of solid oxide electrolysis cells based on scandia stabilised zirconia. <i>Journal of Power Sources</i> , 2009 , 192, 126-131	8.9	94
78	Performance and Characterization of (La, Sr)MnO ₃ /YSZ and La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O ₃ Electrodes for Solid Oxide Electrolysis Cells <i>Chemistry of Materials</i> , 2010 , 22, 1134-1141	9.6	84
77	Raman spectroscopic study of cation disorder in poly- and single crystals of the nickel aluminate spinel. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 186217	1.8	62
76	Improved stability of reversible solid oxide cells with a nickelate-based oxygen electrode. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 1446-1453	13	59
75	Development of oxygen electrodes for reversible solid oxide fuel cells with scandia stabilized zirconia electrolytes. <i>Solid State Ionics</i> , 2011 , 192, 501-504	3.3	59
74	Performance and Aging of Microtubular YSZ-based Solid Oxide Regenerative Fuel Cells. <i>Fuel Cells</i> , 2011 , 11, 116-123	2.9	53
73	Performance of La ₂ Sr _x Co _{0.5} Ni _{0.5} O _{4-δ} as an Oxygen Electrode for Solid Oxide Reversible Cells. <i>Fuel Cells</i> , 2011 , 11, 102-107	2.9	52
72	Steam Electrolysis Using a Microtubular Solid Oxide Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2010 , 157, B852	3.9	44
71	High performance of microtubular solid oxide fuel cells using Nd ₂ NiO ₄ -based composite cathodes. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 9764-9770	13	43
70	Design of industrially scalable microtubular solid oxide fuel cells based on an extruded support. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 5470-5476	6.7	43
69	Investigation of Graded La ₂ NiO ₄ Cathodes to Improve SOFC Electrochemical Performance. <i>Journal of the Electrochemical Society</i> , 2010 , 157, B477	3.9	41
68	Structured porous Ni- and Co-YSZ cermets fabricated from directionally solidified eutectic composites. <i>Journal of the European Ceramic Society</i> , 2005 , 25, 1455-1462	6	39
67	The effect of electrode infiltration on the performance of tubular solid oxide fuel cells under electrolysis and fuel cell modes. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 8002-8008	6.7	36
66	Fabrication Methods and Performance in Fuel Cell and Steam Electrolysis Operation Modes of Small Tubular Solid Oxide Fuel Cells: A Review. <i>Frontiers in Energy Research</i> , 2014 , 2,	3.8	36
65	Stability of Channeled Ni ₂ YSZ Cermets Produced from Self-Assembled NiO ₂ YSZ Directionally Solidified Eutectics. <i>Journal of the American Ceramic Society</i> , 2005 , 88, 3215-3217	3.8	33

64	Tailoring the electrode-electrolyte interface of Solid Oxide Fuel Cells (SOFC) by laser micro-patterning to improve their electrochemical performance. <i>Journal of Power Sources</i> , 2017 , 360, 336-344	8.9	32
63	Micro-spectroscopic study of the degradation of scandia and ceria stabilized zirconia electrolytes in solid oxide electrolysis cells. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 13051-13058	6.7	32
62	Effects of using (La _{0.8} Sr _{0.2}) _{0.95} Fe _{0.6} Mn _{0.3} Co _{0.1} O ₃ (LSFMC), LaNi _{0.6} Fe _{0.4} O ₃ (LNF) and LaNi _{0.6} Co _{0.4} O ₃ (LNC) as contact materials on solid oxide fuel cells. <i>Journal of Power Sources</i> , 2014 , 248, 1067-1076	8.9	29
61	New supraicosahedral metallacarboranes. The synthesis and molecular structures of 4-dppe-4,1,6-closo-NiC ₂ B ₁₀ H ₁₂ and [4-(HC ₃ H ₅)-4-(CO) ₂ -4,1,6-closo-MoC ₂ B ₁₀ H ₁₂]. <i>Inorganica Chimica Acta</i> , 2003 , 347, 161-167	2.7	28
60	Reversible operation of microtubular solid oxide cells using La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O _{3-δ} Ce _{0.9} Gd _{0.1} O _{2-δ} oxygen electrodes. <i>Journal of Power Sources</i> , 2018 , 378, 184-189	8.9	27
59	Redox-cycling studies of anode-supported microtubular solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 7262-7270	6.7	25
58	YSZ-Induced Crystallographic Reorientation of Ni Particles in Ni/YSZ Cermets. <i>Journal of the American Ceramic Society</i> , 2007 , 90, 2954-2960	3.8	25
57	Self-Supporting Thin Ytria-Stabilised Zirconia Electrolytes for Solid Oxide Fuel Cells Prepared by Laser Machining. <i>Journal of the Electrochemical Society</i> , 2011 , 158, B1193	3.9	22
56	Tailoring the Microstructure of a Solid Oxide Fuel Cell Anode Support by Calcination and Milling of YSZ. <i>Scientific Reports</i> , 2016 , 6, 27359	4.9	22
55	Long-Term Stability Studies of Anode-Supported Microtubular Solid Oxide Fuel Cells. <i>Fuel Cells</i> , 2013 , 13, 1116-1122	2.9	20
54	Microtubular solid oxide fuel cells with lanthanum strontium manganite infiltrated cathodes. <i>International Journal of Hydrogen Energy</i> , 2015 , 40, 5469-5474	6.7	19
53	LaNi _{0.6} Co _{0.4} O ₃ dip-coated on FeCr mesh as a composite cathode contact material on intermediate solid oxide fuel cells. <i>Journal of Power Sources</i> , 2014 , 269, 509-519	8.9	19
52	Characterization of laser-processed thin ceramic membranes for electrolyte-supported solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2017 , 42, 13939-13948	6.7	17
51	High-performance Ni/YSZ thin-walled microtubes for anode-supported solid oxide fuel cells obtained by powder extrusion moulding. <i>RSC Advances</i> , 2016 , 6, 19007-19015	3.7	17
50	Orientation relationships and interfaces in directionally solidified eutectics for solid oxide fuel cell anodes. <i>Journal of the European Ceramic Society</i> , 2014 , 34, 2123-2132	6	17
49	Directionally solidified calcia stabilised zirconia/nickel oxide plates in anode supported solid oxide fuel cells. <i>Journal of the European Ceramic Society</i> , 2004 , 24, 1349-1353	6	17
48	Synthesis and magnetic properties of nanostructured metallic Co, Mn and Ni oxide materials obtained from solid-state metal-macromolecular complex precursors. <i>RSC Advances</i> , 2017 , 7, 27729-27738	3.7	16
47	Electrochemical performance of intermediate temperature micro-tubular solid oxide fuel cells using porous ceria barrier layers. <i>Ceramics International</i> , 2015 , 41, 7651-7660	5.1	16

46	Crystallography and thermal stability of textured Co-YSZ cermets from eutectic precursors. <i>Journal of the European Ceramic Society</i> , 2008 , 28, 2325-2329	6	15
45	Controlled Ag-TiO ₂ heterojunction obtained by combining physical vapor deposition and bifunctional surface modifiers. <i>Journal of Physics and Chemistry of Solids</i> , 2018 , 119, 147-156	3.9	14
44	Highly stable microtubular cells for portable solid oxide fuel cell applications. <i>Electrochimica Acta</i> , 2016 , 222, 1622-1627	6.7	14
43	The effect of anode support on the electrochemical performance of microtubular solid oxide fuel cells fabricated by gel-casting. <i>RSC Advances</i> , 2015 , 5, 39350-39357	3.7	13
42	Microtubular solid oxide fuel cells fabricated by gel-casting: the role of supporting microstructure on the mechanical properties. <i>RSC Advances</i> , 2017 , 7, 17620-17628	3.7	12
41	SOFC cathodic layers using wet powder spraying technique with self synthesized nanopowders. <i>International Journal of Hydrogen Energy</i> , 2019 , 44, 7555-7563	6.7	12
40	LaNb _{0.84} W _{0.16} O _{4.08} as a novel electrolyte for high temperature fuel cell and solid oxide electrolysis applications. <i>Solid State Ionics</i> , 2014 , 262, 298-302	3.3	12
39	Solid State Tuning of TiO ₂ Morphology, Crystal Phase, and Size through Metal Macromolecular Complexes and Its Significance in the Photocatalytic Response. <i>ACS Applied Energy Materials</i> , 2018 , 1, 3159-3170	6.1	12
38	Optimization of laser-patterned YSZ-LSM composite cathode-electrolyte interfaces for solid oxide fuel cells. <i>Journal of the European Ceramic Society</i> , 2019 , 39, 3466-3474	6	11
37	The effect of pore-former morphology on the electrochemical performance of solid oxide fuel cells under combined fuel cell and electrolysis modes. <i>Electrochimica Acta</i> , 2018 , 268, 195-201	6.7	9
36	Influence of Anode Functional Layers on Electrochemical Performance and Mechanical Strength in Microtubular Solid Oxide Fuel Cells Fabricated by Gel-Casting. <i>ACS Applied Energy Materials</i> , 2018 , 1, 2024-2031	6.1	9
35	TiO ₂ /SiO ₂ Composite for Efficient Protection of UVA and UVB Rays Through of a Solvent-Less Synthesis. <i>Journal of Cluster Science</i> , 2019 , 30, 1511-1517	3	8
34	YSZ Thin Films Deposited on NiO-CSZ Anodes by Pulsed Injection MOCVD for Intermediate Temperature-SOFC Applications. <i>Chemical Vapor Deposition</i> , 2004 , 10, 249-252		8
33	The influence of the reducing conditions on the final microstructure and performance of nickel-yttria stabilized zirconia cermets. <i>Electrochimica Acta</i> , 2016 , 221, 41-47	6.7	8
32	Optimization of Ni-YSZ solid oxide fuel cell anodes by surface laser melting. <i>Applied Surface Science</i> , 2015 , 335, 39-43	6.7	7
31	Scalable synthetic method for SOFC compounds. <i>Solid State Ionics</i> , 2017 , 313, 52-57	3.3	7
30	Mechanical properties of highly textured porous Ni-YSZ and Co-YSZ cermets produced from directionally solidified eutectics. <i>Ceramics International</i> , 2011 , 37, 3123-3131	5.1	7
29	Effect of synthesis conditions on electrical and catalytical properties of perovskites with high value of A-site cation size mismatch. <i>International Journal of Hydrogen Energy</i> , 2016 , 41, 19810-19818	6.7	6

28	Functionalization of Gold Nanostars with Cationic β -Cyclodextrin-Based Polymer for Drug Co-Loading and SERS Monitoring. <i>Pharmaceutics</i> , 2021 , 13,	6.4	6
27	Does grain size have an influence on intrinsic mechanical properties and conduction mechanism of near fully-dense boron carbide ceramics?. <i>Journal of Alloys and Compounds</i> , 2019 , 795, 408-415	5.7	5
26	Iridium nanostructured metal oxide, its inclusion in silica matrix and their activity toward photodegradation of methylene blue. <i>Materials Chemistry and Physics</i> , 2020 , 252, 123276	4.4	5
25	Orientation relationship and interfaces in Ni and Co-YSZ cermets prepared from directionally solidified eutectics. <i>Open Physics</i> , 2009 , 7,	1.3	5
24	Fabrication and Characterization of Graded Anodes for Anode-Supported Solid Oxide Fuel Cells by Tape Casting and Lamination. <i>Electrocatalysis</i> , 2014 , 5, 273-278	2.7	4
23	Electrochemical Performance of Nd _{1.95} NiO ₄ + λ Cathode supported Microtubular Solid Oxide Fuel Cells. <i>Fuel Cells</i> , 2015 , 15, 98-104	2.9	4
22	Incorporation of NiO into SiO ₂ , TiO ₂ , AlO ₃ , and NaCa(SiO ₃) Matrices: Medium Effect on the Optical Properties and Catalytic Degradation of Methylene Blue. <i>Nanomaterials</i> , 2020 , 10,	5.4	4
21	Incorporation of Nanostructured ReO ₃ in Silica Matrix and Their Activity Toward Photodegradation of Blue Methylene. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 2020 , 30, 1726-1734	3.2	4
20	Reversible operation performance of microtubular solid oxide cells with a nickelate-based oxygen electrode. <i>International Journal of Hydrogen Energy</i> , 2020 , 45, 5535-5542	6.7	3
19	CO ₂ and steam electrolysis using a microtubular solid oxide cell. <i>JPhys Energy</i> , 2020 , 2, 014005	4.9	3
18	Development of Advanced Nickelate-Based Oxygen Electrodes for Solid Oxide Cells. <i>ECS Transactions</i> , 2019 , 91, 2409-2416	1	2
17	Effect of the synthesis conditions on the properties of La _{0.15} Sm _{0.35} Sr _{0.08} Ba _{0.42} FeO ₃ λ Cathode material for SOFCs. <i>Powder Technology</i> , 2017 , 322, 131-139	5.2	2
16	Advanced Inorganic Materials for Solid Oxide Fuel Cells 2011 , 33-94		2
15	Investigations of Graded Cathodes to Improve SOFC Electrochemical Performances. <i>ECS Transactions</i> , 2009 , 25, 2565-2571	1	2
14	Advanced metal oxide infiltrated electrodes for boosting the performance of solid oxide cells. <i>Journal of Materials Chemistry A</i> , 2022 , 10, 2541-2549	13	2
13	Interfacial stability and ionic conductivity enhanced by dopant segregation in eutectic ceramics: the role of Gd segregation in doped CeO ₂ /CoO and CeO ₂ /NiO interfaces. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 2591-2601	13	2
12	Cation-driven electrical conductivity in Ta-doped orthorhombic zirconia ceramics. <i>Ceramics International</i> , 2021 , 47, 7248-7252	5.1	2
11	Combustion synthesis and characterization of Ln _{1-x} M _x Cr _{0.9} Ni _{0.1} O ₃ (Ln = La and/or Nd; M = Sr and/or Ca; x \in [0, 0.25]) perovskites for SOFCs anodes. <i>Ceramics International</i> , 2018 , 44, 2240-2248	5.1	2

10	Fabrication and Microstructure of Self-Supporting Thin Ceramic Electrolytes Prepared by Laser Machining. <i>ECS Transactions</i> , 2015 , 68, 2129-2139	1	1
9	Bimetallic Au//Ag Alloys Inside SiO ₂ Using a Solid-State Method. <i>Journal of Cluster Science</i> , 2017 , 28, 2809-2815	3	1
8	Modelling and Performance of a Microtubular YSZ-Based Anode Supported Solid Oxide Fuel Cell Stack and Power Module. <i>Energy Procedia</i> , 2012 , 29, 166-176	2.3	1
7	High Efficiency Reversible Solid Oxide Microtubular Fuel Cells. <i>ECS Transactions</i> , 2009 , 25, 865-872	1	1
6	Solventless Preparation of Thoria and Its Inclusion into SiO and TiO: A Luminescence and Photocatalysis Study. <i>ACS Omega</i> , 2021 , 6, 9391-9400	3.9	1
5	Role of β -CD Macromolecule Anchored to α -Fe ₂ O ₃ /TiO ₂ on the Selectivity and Partial Oxidation of Guaiacol to Add-Value Products. <i>ACS Sustainable Chemistry and Engineering</i> , 2021 , 9, 11427-11438	8.3	1
4	Selective photocatalytic conversion of guaiacol using g-C ₃ N ₄ metal free nanosheets photocatalyst to add-value products. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2021 , 421, 113513	4.7	1
3	Ni and Co-ZrO ₂ Composites Produced by Laser Zone Melting. <i>Ceramic Engineering and Science Proceedings</i> , 181-186	0.1	1
2	Self-Supported Thin Yttria-Stabilized Zirconia Electrolytes for Solid Oxide Fuel Cells Prepared by Laser Machining. <i>ECS Transactions</i> , 2011 , 35, 1193-1202	1	
1	Insights of the formation mechanism of nanostructured titanium oxide polymorphs from different macromolecular metal-complex precursors. <i>Heliyon</i> , 2021 , 7, e07684	3.6	