

# Juan C Hernández-Garrido

## List of Publications by Year in descending order

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84  
papers

3,473  
citations

147801

31  
h-index

144013

57  
g-index

91  
all docs

91  
docs citations

91  
times ranked

5243  
citing authors

#	ARTICLE	IF	CITATIONS
1	Exceptional Activity for Methane Combustion over Modular Pd@CeO <sub>2</sub> Subunits on Functionalized Al <sub>2</sub> O <sub>3</sub> . <i>Science</i> , 2012, 337, 713-717.	12.6	842
2	3D imaging of nanomaterials by discrete tomography. <i>Ultramicroscopy</i> , 2009, 109, 730-740.	1.9	255
3	Synthesis of Densely Packaged, Ultrasmall Pt <sup>0</sup> Clusters within a Thioether-Functionalized MOF: Catalytic Activity in Industrial Reactions at Low Temperature. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 6186-6191.	13.8	115
4	Base-Controlled Heck, Suzuki, and Sonogashira Reactions Catalyzed by Ligand-Free Platinum or Palladium Single Atom and Sub-Nanometer Clusters. <i>Journal of the American Chemical Society</i> , 2019, 141, 1928-1940.	13.7	107
5	Unknown Aspects of Self-Assembly of PbS Microscale Superstructures. <i>ACS Nano</i> , 2012, 6, 3800-3812.	14.6	92
6	C-doped anatase TiO <sub>2</sub> : Adsorption kinetics and photocatalytic degradation of methylene blue and phenol, and correlations with DFT estimations. <i>Journal of Colloid and Interface Science</i> , 2019, 547, 14-29.	9.4	87
7	Morphological Study of Nanoparticle-Polymer Solar Cells Using High-Angle Annular Dark-Field Electron Tomography. <i>Nano Letters</i> , 2011, 11, 904-909.	9.1	76
8	Soluble/MOF-Supported Palladium Single Atoms Catalyze the Ligand-, Additive-, and Solvent-Free Aerobic Oxidation of Benzyl Alcohols to Benzoic Acids. <i>Journal of the American Chemical Society</i> , 2021, 143, 2581-2592.	13.7	74
9	An endogenous nanomineral chaperones luminal antigen and peptidoglycan to intestinal immune cells. <i>Nature Nanotechnology</i> , 2015, 10, 361-369.	31.5	73
10	3D Characterization of Gold Nanoparticles Supported on Heavy Metal Oxide Catalysts by HAADF-STEM Electron Tomography. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 5313-5315.	13.8	72
11	Biomass into chemicals: One-pot two- and three-step synthesis of quinoxalines from biomass-derived glycols and 1,2-dinitrobenzene derivatives using supported gold nanoparticles as catalysts. <i>Journal of Catalysis</i> , 2012, 292, 118-129.	6.2	70
12	A novel CoOx/La-modified-CeO <sub>2</sub> formulation for powdered and washcoated onto cordierite honeycomb catalysts with application in VOCs oxidation. <i>Applied Catalysis B: Environmental</i> , 2014, 144, 425-434.	20.2	67
13	Redox Behavior of Thermally Aged Ceria-Zirconia Mixed Oxides. Role of Their Surface and Bulk Structural Properties. <i>Chemistry of Materials</i> , 2006, 18, 2750-2757.	6.7	63
14	Nanoporous oxidic solids: the confluence of heterogeneous and homogeneous catalysis. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 2799.	2.8	63
15	Synthesis of Supported Planar Iron Oxide Nanoparticles and Their Chemo- and Stereoselectivity for Hydrogenation of Alkynes. <i>ACS Catalysis</i> , 2017, 7, 3721-3729.	11.2	63
16	Using Highly Accurate 3D Nanometrology to Model the Optical Properties of Highly Irregular Nanoparticles: A Powerful Tool for Rational Design of Plasmonic Devices. <i>Nano Letters</i> , 2010, 10, 2097-2104.	9.1	54
17	Confined Pt <sub>1+</sub> Water Clusters in a MOF Catalyze the Low-Temperature Water-Gas Shift Reaction with both CO <sub>2</sub> Oxygen Atoms Coming from Water. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 17094-17099.	13.8	54
18	Highly stable ceria-zirconia-yttria supported Ni catalysts for syngas production by CO <sub>2</sub> reforming of methane. <i>Applied Surface Science</i> , 2017, 426, 864-873.	6.1	46

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19	Direct formic acid fuel cells on Pd catalysts supported on hybrid TiO <sub>2</sub> -C materials. Applied Catalysis B: Environmental, 2015, 163, 167-178.	20.2	43
20	Rational design of nanostructured, noble metal free, ceria-zirconia catalysts with outstanding low temperature oxygen storage capacity. Journal of Materials Chemistry A, 2013, 1, 4836.	10.3	42
21	Regioirregular and catalytic Mizoroki-Heck reactions. Nature Catalysis, 2021, 4, 293-303.	34.4	42
22	Size-Controlled Water-Soluble Ag Nanoparticles. European Journal of Inorganic Chemistry, 2007, 2007, 4823-4826.	2.0	41
23	Probing Solid Catalysts under Operating Conditions: Electrons or X-rays?. Angewandte Chemie - International Edition, 2009, 48, 3904-3907.	13.8	39
24	The location of gold nanoparticles on titania: A study by high resolution aberration-corrected electron microscopy and 3D electron tomography. Catalysis Today, 2011, 160, 165-169.	4.4	38
25	First Stage of Thermal Aging under Oxidizing Conditions of a Ce <sub>0.62</sub> Zr <sub>0.38</sub> O <sub>2</sub> Mixed Oxide with an Ordered Cationic Sublattice: A Chemical, Nanostructural, and Nanoanalytical Study. Chemistry of Materials, 2008, 20, 5107-5113.	6.7	37
26	Structural Surface Investigations of Cerium-Zirconium Mixed Oxide Nanocrystals with Enhanced Reducibility. Journal of Physical Chemistry C, 2007, 111, 9001-9004.	3.1	36
27	Combined HREM and HAADF Scanning Transmission Electron Microscopy: A Powerful Tool for Investigating Structural Changes in Thermally Aged Ceria-Zirconia Mixed Oxides. Chemistry of Materials, 2005, 17, 4282-4285.	6.7	35
28	Morphology of SBA-15-directed by association processes and surface energies. Physical Chemistry Chemical Physics, 2009, 11, 10973.	2.8	34
29	Some recent results on the correlation of nano-structural and redox properties in ceria-zirconia mixed oxides. Journal of Alloys and Compounds, 2008, 451, 521-525.	5.5	32
30	The promotional effect of Sn-beta zeolites on platinum for the selective hydrogenation of $\alpha,\beta$ -unsaturated aldehydes. Physical Chemistry Chemical Physics, 2013, 15, 12048.	2.8	32
31	Nanocrystalline carbon-TiO <sub>2</sub> hybrid hollow spheres as possible electrodes for solar cells. Carbon, 2013, 53, 169-181.	10.3	32
32	A General Strategy for the Design of New Solid Catalysts for Environmentally Benign Conversions. Topics in Catalysis, 2009, 52, 1630-1639.	2.8	31
33	Selective semi-hydrogenation of internal alkynes catalyzed by Pd-CaCO <sub>3</sub> clusters. Journal of Catalysis, 2022, 408, 43-55.	6.2	29
34	3D-printing of metallic honeycomb monoliths as a doorway to a new generation of catalytic devices: the Ni-based catalysts in methane dry reforming showcase. Catalysis Communications, 2021, 148, 106181.	3.3	28
35	Comparative study of the reducibility under H <sub>2</sub> and CO of two thermally aged Ce <sub>0.62</sub> Zr <sub>0.38</sub> O <sub>2</sub> mixed oxide samples. Catalysis Today, 2009, 141, 409-414.	4.4	27
36	TEM, HRTEM, electron holography and electron tomography studies of $\text{Fe}^{2+}$ and $\text{Fe}^{3+}$ nanoparticles in Inconel 718 superalloy. Journal of Microscopy, 2009, 236, 149-157.	1.8	26

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37	2D and 3D characterization of a surfactant-synthesized TiO <sub>2</sub> @SiO <sub>2</sub> mesoporous photocatalyst obtained at ambient temperature. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 2800.	2.8	26
38	Comparative study of the catalytic performance and final surface structure of Co <sub>3</sub> O <sub>4</sub> /La-CeO <sub>2</sub> washcoated ceramic and metallic honeycomb monoliths. <i>Catalysis Today</i> , 2015, 253, 190-198.	4.4	26
39	A promoting effect of dilution of Pd sites due to gold surface segregation under reaction conditions on supported Pd@Au catalysts for the selective hydrogenation of 1,5-cyclooctadiene. <i>Catalysis Today</i> , 2016, 259, 213-221.	4.4	24
40	Stability and kinetics of the acid-promoted decomposition of Cu(II) complexes with hexaazacyclophanes: kinetic studies as a probe to detect changes in the coordination mode of the macrocycles. <i>Dalton Transactions</i> , 2004, , 94-103.	3.3	23
41	Fabrication and characterization of TiN@Ag nano-dice. <i>Micron</i> , 2009, 40, 308-312.	2.2	23
42	Low temperature prepared copper-iron mixed oxides for the selective CO oxidation in the presence of hydrogen. <i>Applied Catalysis A: General</i> , 2018, 552, 58-69.	4.3	23
43	Synthesis of Densely Packaged, Ultrasmall Pt <sup>0</sup> Clusters within a Thioether-Functionalized MOF: Catalytic Activity in Industrial Reactions at Low Temperature. <i>Angewandte Chemie</i> , 2018, 130, 6294-6299.	2.0	22
44	One pot synthesis of cyclohexanone oxime from nitrobenzene using a bifunctional catalyst. <i>Chemical Communications</i> , 2014, 50, 1645-1647.	4.1	21
45	Improving the Redox Response Stability of Ceria-Zirconia Nanocatalysts under Harsh Temperature Conditions. <i>Chemistry of Materials</i> , 2017, 29, 9340-9350.	6.7	21
46	Sunlight photoactivity of rice husks-derived biogenic silica. <i>Catalysis Today</i> , 2019, 328, 125-135.	4.4	21
47	Nanoconfinement of Ni clusters towards a high sintering resistance of steam methane reforming catalysts. <i>Catalysis Science and Technology</i> , 2012, 2, 2476.	4.1	20
48	Speciation-controlled incipient wetness impregnation: A rational synthetic approach to prepare sub-nanosized and highly active ceria@zirconia supported gold catalysts. <i>Journal of Catalysis</i> , 2014, 318, 119-127.	6.2	20
49	Exceptionally Active Single-Site Nanocluster Multifunctional Catalysts for Cascade Reactions. <i>ChemCatChem</i> , 2010, 2, 402-406.	3.7	19
50	Scanning Transmission Electron Microscopy Investigation of Differences in the High Temperature Redox Deactivation Behavior of CePrOx Particles Supported on Modified Alumina. <i>Chemistry of Materials</i> , 2009, 21, 1035-1045.	6.7	18
51	Synthetic mimetics of the endogenous gastrointestinal nanomineral: Silent constructs that trap macromolecules for intracellular delivery. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2017, 13, 619-630.	3.3	17
52	Advanced Electron Microscopy Investigation of Ceria@Zirconia-Based Catalysts. <i>ChemCatChem</i> , 2011, 3, 1015-1027.	3.7	16
53	Exploring the benefits of electron tomography to characterize the precise morphology of core-shell Au@Ag nanoparticles and its implications on their plasmonic properties. <i>Nanoscale</i> , 2014, 6, 12696-12702.	5.6	16
54	HAADF-STEM Electron Tomography in Catalysis Research. <i>Topics in Catalysis</i> , 2019, 62, 808-821.	2.8	16

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55	Hydrogen-ion driven molecular motions in Cu <sup>2+</sup> -complexes of a ditopic phenanthroline ligand. <i>Chemical Communications</i> , 2003, , 3032-3033.	4.1	15
56	The impact of the chemical synthesis on the magnetic properties of intermetallic PdFe nanoparticles. <i>Journal of Nanoparticle Research</i> , 2015, 17, 1.	1.9	14
57	Combined (S)TEM-FIB Insight into the Influence of the Preparation Method on the Final Surface Structure of a Co <sub>3</sub> O <sub>4</sub> /La-Modified-CeO <sub>2</sub> Washcoated Monolithic Catalyst. <i>Journal of Physical Chemistry C</i> , 2013, 117, 13028-13036.	3.1	13
58	Experimental evidences of the relationship between reducibility and micro- and nanostructure in commercial high surface area ceria. <i>Applied Catalysis A: General</i> , 2014, 479, 35-44.	4.3	13
59	Critical Influence of Redox Pretreatments on the CO Oxidation Activity of BaFeO <sub>3</sub> Perovskites: An in-Depth Atomic-Scale Analysis by Aberration-Corrected and in Situ Diffraction Techniques. <i>ACS Catalysis</i> , 2017, 7, 8653-8663.	11.2	13
60	Self-assembly of one-pot synthesized CexZr1-xO2@BaO·nAl2O3 nanocomposites promoted by site-selective doping of alumina with barium. <i>Journal of Materials Chemistry A</i> , 2013, 1, 3645.	10.3	12
61	High-Resolution Spectroscopy of Europium-Doped Ceria as a Tool To Correlate Structure and Catalytic Activity. <i>Journal of Physical Chemistry C</i> , 2014, 118, 23349-23360.	3.1	12
62	An atomically efficient, highly stable and redox active Ce <sub>0.5</sub> Tb <sub>0.5</sub> O <sub>x</sub> (3% mol.)/MgO catalyst for total oxidation of methane. <i>Journal of Materials Chemistry A</i> , 2019, 7, 8993-9003.	10.3	12
63	Preparation of Rhodium/Ce <sub>x</sub> Pr <sub>1-x</sub> O <sub>2</sub> Catalysts: A Nanostructural and Nanoanalytical Investigation of Surface Modifications by Transmission and Scanning-Transmission Electron Microscopy. <i>Journal of Physical Chemistry C</i> , 2008, 112, 5900-5910.	3.1	11
64	Fabrication and characterization of TiN nanocomposite powders fabricated by DC arc-plasma method. <i>Journal of Alloys and Compounds</i> , 2010, 492, 685-690.	5.5	11
65	Surface and redox characterization of new nanostructured ZrO <sub>2</sub> @CeO <sub>2</sub> systems with potential catalytic applications. <i>Surface and Interface Analysis</i> , 2018, 50, 1025-1029.	1.8	10
66	Pd (1Åwt%)/LaMn <sub>0.4</sub> Fe <sub>0.6</sub> O <sub>3</sub> Catalysts Supported Over Silica SBA-15: Effect of Perovskite Loading and Support Morphology on Methane Oxidation Activity and SO <sub>2</sub> Tolerance. <i>Topics in Catalysis</i> , 2012, 55, 782-791.	2.8	9
67	Honeycomb monolithic design to enhance the performance of Ni-based catalysts for dry reforming of methane. <i>Catalysis Today</i> , 2022, 383, 226-235.	4.4	8
68	Ultrathin Washcoat and Very Low Loading Monolithic Catalyst with Outstanding Activity and Stability in Dry Reforming of Methane. <i>Nanomaterials</i> , 2020, 10, 445.	4.1	8
69	Equilibrium and Kinetic Properties of Cu <sup>II</sup> Cyclophane Complexes: The Effect of Changes in the Macrocyclic Cavity Caused by Changes in the Substitution at the Aromatic Ring. <i>European Journal of Inorganic Chemistry</i> , 2008, 2008, 1497-1507.	2.0	6
70	Nanostructural characterization and catalytic analysis of hybridized platinum/phthalocyanine nanocomposites. <i>Microscopy (Oxford, England)</i> , 2009, 58, 289-294.	1.5	5
71	Electron tomography of III-V quantum dots using dark field 002 imaging conditions. <i>Journal of Microscopy</i> , 2010, 237, 148-154.	1.8	5
72	Multicationic Sr <sub>4</sub> Mn <sub>3</sub> O <sub>10</sub> mesostructures: molten salt synthesis, analytical electron microscopy study and reactivity. <i>Materials Horizons</i> , 2018, 5, 480-485.	12.2	5

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73	Confined Pt <sub>1</sub> <sup>+</sup> Water Clusters in a MOF Catalyze the Low-Temperature Water-Gas Shift Reaction with both CO <sub>2</sub> Oxygen Atoms Coming from Water. <i>Angewandte Chemie</i> , 2018, 130, 17340-17345.	2.0	4
74	Suppression and enhancement of the ferromagnetic response in Fe-doped ZnO nanoparticles by calcination of organic nitrogen, phosphorus, and sulfur compounds. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	1.9	3
75	The Role of Gold-Alumina Template in the Electrochemical Deposition of CeO <sub>2</sub> Nanotubes. <i>Particle and Particle Systems Characterization</i> , 2019, 36, 1900168.	2.3	3
76	In-depth structural and analytical study of the washcoating layer of a Mn-Cu monolithic catalyst using STEM-FIB, EDX and EELS. Insights into stability under working conditions. <i>Applied Surface Science</i> , 2021, 563, 150318.	6.1	2
77	Low-Temperature Growth of Reactive Pyrochlore Nanostructures on Zirconia-Supported Ceria: Implications for Improved Catalytic Behavior. <i>ACS Applied Nano Materials</i> , 2022, 5, 6316-6326.	5.0	2
78	TEM Investigation of the Synthesis of Rh/CePrOx Catalysts. <i>Microscopy and Microanalysis</i> , 2006, 12, 760-761.	0.4	1
79	3D characterization and metrology of nanostructures by electron tomography. <i>Microscopy and Microanalysis</i> , 2008, 14, 284-285.	0.4	1
80	TEM (HREM) and STEM (HAADF/EDS) Study of the Metallic Dispersion in Supported Ruthenium Catalysts. <i>Microscopy and Microanalysis</i> , 2006, 12, 810-811.	0.4	0
81	Electron tomography using compositional-sensitive diffraction contrast for 3D characterization of self-assembled semiconductor quantum dots. <i>Microscopy and Microanalysis</i> , 2008, 14, 1052-1053.	0.4	0
82	Developments in Techniques and Algorithms for Materials-Based Electron Tomography. <i>Microscopy and Microanalysis</i> , 2009, 15, 40-41.	0.4	0
83	Intra-particle chemical homogeneity determining the exchange coupling in palladium-iron nanoparticles. <i>Journal of Applied Physics</i> , 2017, 121, 084302.	2.5	0
84	Exploring the Capability of HAADF-STEM Techniques to Characterize Graphene Distribution in Nanocomposites by Simulations. <i>Journal of Nanomaterials</i> , 2018, 2018, 1-12.	2.7	0