Curriculum Vitae (updated 29/1/24)

1 Personal data:

Family name: **Galan-Mascaros**
Name: José Ramón
e-mail: jrgalan@iciq.es
web page: www.iciq.es
Date of birth: 25th July 1970
Current position: ICREA Research Professor,
ICIQ Research Group Leader.
Institution: Institute of Chemical Research of Catalonia (ICIQ)
Av. Països Catalans, 16. 43007, Tarragona SPAIN
ORCID: 0000-0001-7983-9762
ResearcherID: O-7196-2014
SCOPUS Author ID: 7004578140

Research Interests: Catalysis for energy applications. Electrocatalysis and electrolyzers. Coordination chemistry of redox active transition metals. Multifunctional organic-inorganic hybrid materials. Chiral functional materials. Polyoxometalates.

2 Research experience:

Education:

✤ International Diploma on Chemistry. Imperial College of Science, Technology, and Medicine, University of London, UK (June 1993).

✤ Bachelor of Science, Chemistry. Universidad de Valencia, Spain (July 1993).

✤ PhD, Chemistry. Universidad de Valencia, Spain (april 1999). Dissertation : "Molecule-based magnetic materials: High nuclearity clusters and bidimensional extended structures as inorganic components for new multifuncional materials". Advisors: Eugenio Coronado and Carlos J. Gómez-García.

Employment:

✤ Department of Chemistry, Texas A&M University: Postdoctoral Research Associated (1/9/1999–30/9/2001)

✤ Department of Chemistry, Texas A&M University: Associated Research Scientist (1/10/2001–31/12/2001)

✤ Instituto de Ciencia Molecular (ICMol), Universidad de Valencia: Research Scientist (1/1/2002–31/8/2009)

Research stays in other laboratories (over 1 month):

✤ Department of Chemistry. Texas A&M University, College Station,TX, USA. 24 weeks (2005). Topic: Design, synthesis and characterization of new magnetic materials based on metallic complexes of bis(imidazolates). (Invited Researcher)

✤ Department of Chemistry. Texas A&M University, College Station,TX, USA. 121 weeks (1999-2001). Topic: Design, synthesis and characterization of new magnetic clusters and polymers based on metallic complexes of polynitriles and polycyanides. (Postdoctoral)

✤ Institut fur Anorganische und Analitische Chemie. Universitat Mainz, Mainz, Germany. 8 weeks (1997). Topic: "Mösbauer spectroscopy of hybrid bimetallic oxalate-based magnets. (Predoctoral)

✤ Imperial College of Science, Technology and Medicine. University of London, London, UK. 36 weeks (1992-1993). Topic: "Binary compounds of nitrogen and sulphur: cationic molecular species. (Undergraduated)

Supervised PhD students:
1. Student: Eugenia Martínez Ferrero.
Title: "Hybrid molecular materials with electrical and/or magnetic properties: Organic radicals and inorganic magnetic networks as precursors for multifuncional systems"
University of Valencia, Department of chemistry.
Defense: June 5th 2003.

2.Student: Carlos Martí Gastaldo.
Title: "Multifunctional Magnetic Materials through Coordination and Solid State Chemistry"
University of Valencia, Institute for Molecular Science (ICMol), Department of Inorganic Chemistry.
Defense: July 6th 2009

3.Student: María Monrabal Capilla
Title: "Magnetic molecular materials: Bi-stable magnets and conductors as crystalline solids and nanoparticles"
University of Valencia, Institute for Molecular Science, Department of Inorganic Chemistry.
Defense: March 11th 2011

4.Student: Sara Goberna Ferrón
Title: "Novel Molecular Catalysts for Water Oxidation: Towards Artificial Photosynthesis"
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: December 18th 2013

5.Student: Joaquín Soriano López
Title: “High Nuclearity Polyoxometalates as Water Oxidation Catalysts: From Experiments to Theory”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: March 31st 2016

6.Student: Nelson Giménez Agulló
Title: “Synthesis of Tetra-azaporphyrins, Phthalocyanines and Lanthanide Double-Decker Sandwich Complexes”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: July 25st 2016

7.Student: Pilar Maldonado Illescas
Title: “Spin Crossover Phenomena: Towards Molecule-based Memories and Switches”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: June 9th 2017

8.Student: Bárbara Rodríguez García
Title: “Prussian blue derivatives as smart materials for technological applications”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: July 21st 2017

9.Student: Marta Blasco Ahicart
Title: “Earth Abundant Materials for Electrocatalytic Water Oxidation: Enhancing Efficiency and Robust Performance in Acidic, Neutral and Alkaline Media”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: October 26th 2017

10.Student: Franziska Simone Hegner
Title: “Experimental and Theoretical Investigation of Prussian Blue-type Catalysts for Artificial Photosynhtesis”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: January 24th 2019

11.Student: Lijuan Han
Title: “Electrochemical Oxidation of Water and Formate Promoted by Prussian blue Analogues for Electricity Storage and Generation”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: June 28th 2019

12.Student: Andrea Moneo Corcuera
Title: “Bistable molecular materials: triazole based-coordination chemistry of first row transition metals”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: December 18th 2019

13. Student: David Nieto Castro
Title: “Advances in Spin Crossover: Synthesis, Mechanosynthesis and Switchable Multifunctional Hybrids”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: December 17th 2021

14. Student: Mabel De Fez Febré
Title: “Cost-Effective Materials for the Energy Transition: From Water Splitting Catalysts to Carbon Dioxide Adsorbents”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: February 11th 2022

15. Student: Juanjo Cabezas-Giménez
Title: “Insights in Homochiral Metal–Organic Frameworks: From Their Synthesis to Enantioselective Applications”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: March 24th 2022

16. Student: Khalid Azmani Oualite
Title: “Efficient Catalysts for Water Oxidation: Synthesis, characterization and Computational Study”
University Rovira i Virgili, Institute of Chemical Research of Catalonia (ICIQ).
Defense: February 3rd 2023

Funding:
I have participated in over twenty five national and international research projects, being Principal Investigator of the following :

✳Title: Sustainable Photo-Electrochemical valorization of flue gases (SUPERVAL)
Funding Agency: HORIZON-EIC-2022-PATHFINDERCHALLENGES-01 (grant agreement 101115456)
From: 1/11/2023 to: 31/10/2026 Budget: 3571708,75 EUR Coordinator: J. R. Galan-Mascaros
Budget for ICIQ team: 715000 EUR

✳Title: Low-pressure CO_2 CAPture technology for biogas upgrading (COCAP)
Funding Agency: Spanish Ministry of Science and Innovation (PDC2022-133214-I00)
From: 1/12/2022 to: 30/11/2024 Budget: 149,500 EUR

✳Title: Novel boundary conditions for advanced electrocatalysis: From magnetic field effects to solvent-less configurations (NEWBOUND)
Funding Agency: Spanish Ministry of Science and Innovation (PID2021-124796OB-I00)
From: 1/9/2022 to: 31/08/2025 Budget: 240,000 EUR

✳Title: Support for Research Groups of Excellence
Funding Agency: Agència de Gestió d’Ajuts Universitaris i de Recerca (AGAUR), Generalitat de Catalunya (2021-SGR-1154)
From: 1/1/2022 to: 31/12/2024 Budget: 60,000 EUR

✳Title: Novel (photo)electrochemical strategies for the transformation of renewable energy sources into sustainable energy vectors (PESSEV)
Funding Agency: Spanish Ministry of Science and Innovation (RTI2018-095618-B-I00)
From: 1/1/2019 to: 31/12/2021 Budget: 200,000 EUR

✳Title: Support for Research Groups of Excellence
Funding Agency: Agència de Gestió d’Ajuts Universitaris i de Recerca (AGAUR), Generalitat de Catalunya (2017-SGR-1406)
From: 1/1/2017 to: 31/12/2021 Budget: 44,400 EUR

✳Title: Separation membranes for carbon dioxide removal from gas streams (MEMCARB)
Funding Agency: European Union: ERC Proof-of-Concept (grant agreement 780255)
From: 1/5/2018 to: 31/10/2019 Budget: 150,000 EUR

✳Title: An artificial leaf: a photo-electro-catalytic cell from earth-abundant materials for sustainable solar production of CO_2-based chemicals and fuels (A-LEAF)
Funding Agency: European Union: H2020 FETPROACT-2016 RIA (grant agreement 732840)
From: 1/1/2017 to: 31/12/2020 Total budget: 7,980,861 EUR Coordinator: J. R. Galan-Mascaros
Budget for ICIQ team: 879,712.50 EUR

✳Title: A novel platform for user-friendly spectroscopy at very low temperatures and under strong magnetic fields (U-SPEC)
Funding Agency: European Union: ERC Proof-of-Concept (grant agreement 713539)
From: 1/11/2016 to: 30/4/2018 Budget: 150,000 EUR

✳Title: Coordination Chemistry solutions for Energy Challenges: Advanced Materials for Energy Conversion and Storage (AMECS)
Funding Agency: Spanish Ministery of Economy and Competitiveness (CTQ2015-71287-R)
From: 1/1/2016 to: 31/12/2018 Budget: 112,000 EUR

✳Title: A Solar-Powered Hydrolyzer (HYDRER)
Funding Agency: European Union: ERC Proof-of-Concept (grant agreement 664719)
From: 1/5/2015 to: 31/10/2016 Budget: 150,000 EUR

✳Title: Support for Research Groups of Excellence
Funding Agency: Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR), Generalitat de Catalunya (2014 SGR 797)
From: 1/1/2014 to: 31/12/2016 Budget: 28,800 EUR

✳Title: Catalytic Oxidation of Water: New homogeneous, heterogeneous and biomimetic Catalysts from Coordination Chemistry (WOCAT)
Funding Agency: Spanish Ministery of Economy and Competitiveness (CTQ2012-34088)
From: 1/1/2013 to: 31/12/2015 Budget: 100,000 EUR

✳Title: Building-up Chemical Complexity into Multifunctional Molecule-Based Hybrid Materials (CHEMCOMP)
Funding Agency: European Union: ERC Starting Grant (grant agreement 279313)
From: 1/1/2012 to: 31/12/2016 Budget: 1,940,394 EUR

✳Title: Polynuclear Metallic Complexes with Oligopeptides: Inorganic Models for the Active Center in Photosystem II
Funding Agency: Ministerio de Ciencia e Innovación (CTQ2008-03197)
From: 1/1/2009 to: 30/09/2012 Budget: 111,320 EUR

✳Title: Multifunctionality by Self-Assembly of Hybrid Molecular Materials
Funding Agency: European UNION ERA-Chemistry CERC3 and Ministerio de Educación y Ciencia (CTQ2006-27186-E and CTQ2005-25211-E)
From: 1/1/2006 to: 31/12/2009 Budget: 100,000 EUR

✳Title: Multifunctionality by Self-Assembly of Hybrid Molecular Materials
Funding Agency: Generalitat Valenciana (ACOMP07-074)
From: 1/1/2007 to: 31/12/2007 Budget: 18,500 EUR

✳Title: Preparation and characterization of magnetic nanoparticles from botanical origins
Funding Agency: Generalitat Valenciana (AE/07/008)
From: 1/1/2007 to: 31/12/2007 Budget: 2,500 EUR

✳Title: Photoactive multifunctional molecular materials: Preparation of chiral hybrid organic-inorganic materials with electric and magnetic properties
Funding Agency: Generalitat Valenciana (GV04A/077)
From: 1/1/2004 to: 31/12/2005 Budget: 20,000 EUR

✳Title: Molecular magnetism: Magnetic clusters and materials based on Coordination Chemistry and its preparation as crystals, thin films and nanoparticles
Funding Agency: Ministerio de Ciencia y Tecnología: DGICYT (BQU2002-01091)
From: 1/11/2002 to: 31/10/2005 Budget: 154,800 EUR

✳Title: Multifuncional materials for molecular electronics: Preparation of organic-inorganic hybrid materials with electric and magnetic properties
Funding agency: Generalitat Valenciana (CTIDIA/2002/157)
From: 1/1/2002 to: 31/12/2003 Budget: 21,400 EUR

I have also participated as partner in the following <u>international collaborative projects</u>:

✳Title: Novel photo-assisted systems for direct solar-driven reduction of CO_2 to energy reach chemicals (SUN2CHEM)
Funding Agency: European Union: H2020-LC-SC3-RES-29-2019 (grant agreement 862030)
From: 1/10/2020 to: 30/09/2023 Total budget: 2,998,445.00 EUR Coordinator: Michael Grätzel
Budget for ICIQ: 323,750.00 EUR

✳Title: Distributed chemicals and fuels production from CO_2 in photoelectrocatalytic devices (DECADE)
Funding Agency: European Union: H2020-NMBP-ST-IND-2019-RIA (grant agreement 862030)
From: 1/5/2020 to: 30/04/2024 Total budget: 5,198,756.69 EUR Coordinator: Gabriele Centi
Budget for ICIQ: 538,937.50 EUR

✳Title: Critical Raw Materials Elimination by a Top-down Approach to Hydrogen and Electricity Generation (CREATE)
Funding Agency: European Union: H2020 NMBP-2016-RIA (grant agreement 721065)
From: 1/1/2017 to: 31/12/2020 Total budget: 4,318,978.02 EUR Coordinator: Frederic Jaouen
Budget for ICIQ: 350,625.00 EUR

✳Title: Polyoxometalate Chemistry for Molecular Nanoscience (PoCheMon)
Funding Agency: European Union: CMST COST Action (CM1203)
From: 1/1/2012 to: 30/12/2017 Total budget: - EUR Coordinator: John Errington
Budget for ICIQ: - EUR

I have also been recipient of several research contracts funded by private industrial companies:

1) Industrial R&D project (SLAGCO2 – CELSA, Spain) – PI – 01/2021-12/2023 – 290,000 €
2) Industrial R&D project (Proyecto MgCO2) – CELSA, Spain) – PI – 01/2022-12/2022 – 35,000 k€
3) Industrial R&D project (Proyecto ESPAEM – H2B2 ELECTROLYSIS TECHNOLOGIES SL, Spain) – partner – 07/2023-06/2025 – 178,000 €

Patents:

❑Title: “Method of synthesis of transition metal nitrides and their use when they have two, three or four metals as catalysts for the oxygen evolution reaction””. Inventors: Scott J. Folkman, Ilario Gelmetti, Stefano Giancola, Felipe A. Garcés-Pineda, J. R. Galan-Mascaros. Application No.: EP2516.4. Country: European Union and associated countries. Priority date: 12/06/2023

❑Title: “A crystalline metal-organic framework”. Inventors: J. R. Galan-Mascaros, Neus Corella-Ochoa, Vanesa Lillo. Application No.: EP16382480.8. Country: European Union and associated countries. Priority date: 21/10/2016

❑Title: “Non-magnetic insertion probe for spectroscopic measurements”. Inventors: J. R. Galan-Mascaros, Cristina Sáenz de Pipaón Soba, José Luis León, Agustín Camón, Javier Pérez. Application No.: EP15382481.8. Country: European Union and associated countries. Priority date: 2/10/2015.

❑Title: “Process for water oxidation comprising the use of a polyoxometalate compound as water oxidation catalyst”. Inventors: J. R. Galan-Mascaros, A. Llobet, L. Vigara, S. Goberna-Ferrón and J. Soriano-López. Pub. Nº = WO/2013/057079, Application No.: PCT/EP2012/070444. Country: European Union and associated countries. Priority date: 17/10/2011, EP11382322.3.

❑Title: “Homo and heterometallic soluble coordination polymers containing an oxalate ligand and method for obtaining spinels from same”. Inventors: E. Coronado, C. Martí-Gastaldo and J. R. Galan-Mascaros. Nº = P200801329. Country: Spain. Priority date: 13/5/2008; Nº = PCT/ES2009070117. Countries: European Union and associated countries. Priority date: 25/4/2008.

Awards and Scholarships:

★ “Premio a la Excelencia Investigadora 2019” award by the Spanish Royal Society of Chemistry.

★ICREA Senior Research Professor since 01/09/2010.

★ Olivier Kahn International Award 2008, by the European Institute of Molecular Magnetism (MagmaNet). An award offered to the most outstanding young scientist (up to 10 years after the PhD defense) in the field.

★ “IDEA 2006: Technology” award, by the Ciudad de las Artes y las Ciencias Foundation of Valencia.

★ "Investigador Novel 2002" award, by the Spanish Royal Society of Chemistry. An award given to young researchers (under 36) based on research merits.

★Postdoctoral Ramón and Cajal research contract. Convocatory: 2000 (Chemistry).

★ Extraordinary PhD award. Universitat de Valencia (2000).

★ Postdoctoral fellowship funded by the Spanish National Program for research grants abroad (July 2000 - December 2001).

★ Research fellowship (6 months) funded by the University of Valencia. Project: "Supramolecular organizations with magnetic, electrical and optical properties" (1999).

★ Doctorate fellowship (F.P.I.) funded by the Consellería de Educación y Ciencia, Generalitat Valenciana (1995-1998).

★ Research fellowship (6 months) funded by the University of Valencia. Project: "Synthesis and characterization of organic conducting and superconducting ionic and charge transfer salts" (1994).

★ ERASMUS fellowship at Imperial College of Science, Technology and Medicine (University of London) funded by the European Union (9 months, 1992-1993).

Other merits:

★ Founder and Scientific Advisor of Orchestra Scientific S.L. (www.orchestrasci.es).

★ Reviewer for the following agencies: *European Research Council* (ERC-European Union); *Agencia Nacional de Evaluación y Prospectiva* (ANEP-Spain); *Agence National de la Recherche* (ANR-France); *Register of Expert Peer Reviewers for Italian Scientific Evaluation* (REPRISE, Italy); Institute Laue-Langevin (ILL), *Agencia Nacional de Promoción Científica y Tecnológica* (ANPCyT-Argentine); *Agència de Gestió*

d'Ajuts Universitaris i de Recerca (AGAUR-Catalonia), Comisión Nacional de Investigación Científica y Tecnológica (CONICYT-Chile).

★ Reviewer for the following publishers: *Springer Nature*; *American Chemical Society* (ACS); *Royal Society of Chemistry* (RSC); *Wiley-VCH*; *Elsevier*; *Pergamon Press*; *Frontiers Media*; *Multidisciplinary Digital Publishing Institute* (MDPI).

★Member of the Editorial Board of *Frontiers in Chemistry* (Frontiers Media SA) since 2018.

★Member of the Editorial Advisory Board of *ChemElectroChem* (Wiley-VCH) since 2018.

★Member of the Editorial Advisory Board of *Magnetochemistry* (MDPI) since 2018 to 2023.

★Guest editor of "Special issue on Polyoxometalates" in *Acta Crystallogr., Sect. C: Struct. Chem.* **2018**, Vol. *74*, num. 11.

★Organizing committee: FMOCS VII: Frontiers in Metal Oxide Cluster Science, April 11-14, 2023. Tarragona (Spain).

★International scientific advisory committee: "Electrolysis and fuel cell discussions: Towards catalysts free of critical raw materials for fuel cells and electrolyses" EFCD 2019, September 15-18, 2019. La Grand Motte (France).

★Organizing committee: "Fundamentals and Applications of (Photo)Electrolysis for Efficient Energy Storage" International Bunsen-Discussion-Meeting, April 1-5, 2019. Taormina (Italy).

★Organizing committee: Nanomaterials in Biology & Medicine, at the 252nd ACS Meeting, August 21-25, 2016. Philadelphia (USA).

★Organizing committee: ICIQ Symposium "Lights on Chemistry", October 1-2, 2015. Tarragona (SPAIN).

★ Local organizing committee: International Conference on Molecule-Based Magnets (ICMM 2002) October 5-10, 2002. Valencia (Spain).

3 Publications

Scientific publications: 238 (including contributed chapters to 10 books)

Total number of citations: 14383 **Average:** > 60 per publication ***h* factor:** 65 (Google scholar)

List of publications:

2023

238
O. Oms, N. Marty, J. Marrot, J. Yu, E. Rivière, W. Shepard, Y. Benseghir, W. Shepard, Y. Benseghir, K. Talbi, A. Dolbecq, M. Ha-Thi, J. R. Galan-Mascaros, P. Mialane
"Structure and electronic properties of large oligomeric heterometallic 3d/Ce^{IV} polyoxometalates"
Inorg. Chem. **62**, 18856–18863 (2023)

237
M. Oggianu, A. Abhervé, D. Marongiu, F. Quochi, J. R. Galan-Mascaros, F. Bertolotti, N. Masciocchi, N. Avarvari, M. L. Mercuri
"Terbium and Europium chlorocyanilate-based 2D coordination polymers"
Molecules **28**, 6453 (2023)

236
R. C. Oglou, T. G. U. Ghobadi, F. S. Hegner, J. R. Galan-Mascaros, N. López, E. Ozbay, F. Karadas
"Manipulating Intermetallic Charge Transfer for Switchable External Stimulus-Enhanced Water Oxidation Electrocatalysis"
Angew. Chem. Int Ed. **62**, e202308647 (2023)

235
J. Yu, S. Giancola, B. Khezri, D. Nieto-Castro, J. Redondo, F. Schiller, S. Barja, M. C. Spadaro, J. Arbiol, F. A. Garcés-Pineda, J. R. Galan-Mascaros
"A survey of Earth-abundant metal oxides as oxygen evolution electro catalysts in acidic media (pH < 1)"
EES. Catal. **1**, 765–773 (2023)

234
J. L. Núñez-Rico, J. Cabezas-Gimenez, V. Lillo, S. R. G. Balestra, J. R. Galan-Mascaros, S. Calero, A. Vidal-Ferran
"TAMOF-1 as a versatile and predictable chiral stationary phase for the resolution of racemic mixtures"
ACS Appl. Mater. Interfaces 15, 39594–39605 (2023)

233
D. Nieto-Castro,A. W. Graf, F. Gispert-Guirado, J. R. Galan-Mascaros
"Magnetic and electrical instability in hybrid composites of conducting organic polymers with $[Fe(NH_2\text{-}trz)_3]n[SO_4]_n$"
J. Mater. Chem. C 11, 11325–11332 (2023)

232
A. Moneo-Corcuera, D. Nieto-Castro, B. Cirera, V. Gómez, J. Sanjosé-Orduna, C. Casadevall, G. Molnar, A. Bousseksou, T. Parella, J. M. Martínez-Agudo, J. Lloret-Fillol, M . H. Pérez-Temprano, E. Ruiz, J. R. Galan-Mascaros
"Synthesis and characterization of highly diluted polyanionic iron(II) spin crossover systems"
STAR Protocols 4, 102394 (2023)

231
C. Ampelli, D. Giusi, M. Micelli, T. Merdzhanova, V. Smirnov, U. Chime, O. Astakhov, A. J. Martin, F. L. P. Veenstra, F. A. Garcés-Pineda, J. González-Cobos, M. García-Tecedor, S. Giménez, W. Jaegermann, G. Centi, J. Pérez-Ramírez, J. R. Galan-Mascaros, S. Perathoner
"An artificial leaf device built with earth-abundant materials for combined H_2 production and storage as formate with efficiency > 10%"
Energy Environ. Sci. 16, 1644–1661 (2023)

230
E. Burzurí, M. J. Martínez-Pérez, C. Martí-Gastaldo, M. Evangelisti, S. Mañas-Valero, E. Coronado, J. I. Martínez, J. R. Galan-Mascaros, F. Luis
"A quantum spin liquid candidate isolated in a two-dimensional $Co^{II}Rh^{III}$ bimetallic oxalate network"
Chem. Sci. 14, 3899–3906 (2023)

229
A. Moneo-Corcuera, D. Nieto-Castro, B. Cirera, V. Gómez, J. Sanjosé-Orduna, C. Casadevall, G. Molnar, A. Bousseksou,, T. Parella, J. M. Martínez-Agudo, J. Lloret-Fillol, M . H. Pérez-Temprano, E. Ruiz, J. R. Galan-Mascaros
"Molecular memory near room temperature in an iron polyanionic complex"
Chem 9, 377–393 (2023)

2022

228
M. Martín, A. Menéndez-Velázquez, J. R. Galan-Mascaros, P. Gómez-Romero
"De los nanómetros a los teravatios: La nanociencia al servicio de la transición energética"
Chapter 6 in Libro Blanco de las Nanotecnologías II: Estado del arte de la I+D+i, Eds. J. Mendoza González & J. Díaz Marcos, 1st Ed. (October 2022) Editorial Aranzadi, Pamplona, España. ISBN: 9788411257299

227
C. Gonzalez-Galan, M. De Fez-Febre, S. Giancola, J. Gonzalez-Cobos, A. Vidal-Ferran, J. R. Galan-Mascaros, S. R. G. Balestra, S. Calero
"Separation of volatile organic compounds in TAMOF-1"
ACS Appl. Mater. Interfaces 14, 30772–30785 (2022)

226
J. Yu, F. A. Garcés-Pineda, J. Gonzalez-Cobos, M. Peña-Diaz, C. Rogero, S. Gimenez, M. C. Spadaro, J. Arbiol, S. Barja, J. R. Galan-Mascaros
"Sustainable oxygen evolution electrocatalysis in aqueous 1 M H_2SO_4 with earth abundant nanostructure Co_3O_4"
Nat. Commun. 13, 4341 (2022)

225
Y. Liasng, K. Banjac, K. Martin, N. Zigon, S. Lee, N. Vanthuyne, F. A. Garcés-Pineda, J. R. Galan-Mascaros, X. Hu, N. Avarvari, M. Lingenfelder
"Enhancement of electrocatalytic oxygen evolution by chiral molecular functionalization of hybrid 2D electrodes"
Nat. Commun. 13, 3356 (2022)

224
F. S. Hegner, J. R. Galan-Mascaros, N. López
"Lowering the water oxidation overpotential by spin-crossover in cobalt hexacyanoferrate"
J. Phys. Chem. Lett. 13, 4104–4110 (2022)

223
B. Eriksson, T. Asset, F. Spanu, F. Lecoeur, M. Dupont, F. A. Garcés-Pineda, J. R. Galan-Mascaros, S. Cavaliere, J. Rozière, F. Jaouen
"Mitigation of carbon crossover in CO_2 electrolysis by use of bipolar membranes"
J. Electrochem. Soc. 169, 034508 (2022)

222
J. González-Cobos, B. Rodríguez-García, M. Torréns, O. Alonso-Almirall, M. Aliaguilla, D. Galí, D. Gutiérrez-Tauste, M. Galindo-Anguera, F. A. Garcés-Pineda, J. R. Galan-Mascaros
"An autonomous device for solar hydrogen production from sea water"
Water 14, 453 (2022)

2021

221
J. Cabezas-Gimenez, V. Lillo, J. L. Núñez-Rico, N. Corella-Ochoa, J. Jover, J. R. Galan-Mascaros, A. Vidal-Ferran
"Differentiation of epoxide enantiomers in the confined spaces of an homochiral Cu(II) metal-organic framework by kinetic resolution"
Chem. Eur. J. 27, 16956–16965 (2021)

220
F. S. Hegner, F. A. Garcés-Pineda, J. González-Cobos, B. Rodríguez-García, M. Torrens, E. Palomares, N. López, J. R. Galan-Mascaros
"Understanding the catalytic selectivity of cobalt hexacyanoferrate toward oxygen evolution in seawater electrolysis"
ACS Catal. 11, 13140–13148 (2021)

219
M. Hatzell, M. Escudero-Escribano, J. R. Galan-Mascaros
"Energy Spotlight: New strategies to Taylor Electrocatalytic processes"
ACS Energy Lett. 6, 4413–4415 (2021)

218
I. Sánchez-Molina, D. Nieto-Castro, A. Moneo-Corcuera, E. Martínez-Ferrero, J. R. Galan-Mascaros
"Synergic bistability between spin transition and fluorescence in polyfluorene composites with spin crossover polymers"
J. Phys. Chem. Lett. 12, 10479–10485 (2021)

217
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"Influence of oxygen vacancies and surface facets on water oxidation selectivity toward oxygen or hydrogen peroxide with $BiVO_4$"
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"Advanced materials for the energy transition: renewable fuels and chemicals" Invited talk at 1st European School on Advanced Materials, October 17th 2023, Gandía, Spain.
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"Oxidation catalysis and renewable fuels: challenges and beyond" Plenary lecture at Solar2Chem conference, September 21st 2023, Tarragona, Spain.
60
"Prussian-blue derivatives as all-pH water oxidation catalysts and co-catalysts in electrochemical and photo(electro)chemical architectures" Invited talk at the Conference on Artificial Photosynthesis and Green Catalysis (CAPGC2023), July 16th 2023, Lausanne, Switzerland.
59
"Magnetisme" Invited talk at the Campus físico-matemàtic 2023, July 13th 2023, Tarragona, Spain.
58
"Water oxidation electrocatalysis with iron-based oxides: effects of pH and applied magnetic fields" Invited talk at University of Darmstadt, June 28th 2023, Darmstadt, Germany.
57
"Renewable fuels: from science to technology and beyond" Invited lecture at the 103rd ICREA Colloquium, Catalan Institute of Research and Advanced Studies, November 29th 2022, Barcelona, Spain.
56
"Artificial photosynthesis: state-of-the-art, perspectives and catalysis" Keynote talk at SHIFT 2022 – Spectral sHaping For biomedical and energy applicaTions, October 13th 2022, LaLaguna, Tenerife, Spain.
55
"Prussian blue-derivatives as robust, selective oxidation electro catalysts" Invited talk at the 44th International Conference on Coordination Chemistry, August 29th 2022, Rimini, Italy.
54
"Prussian blue-derivatives as robust, nanostructure oxidation electro catalysts" Invited talk at the 8th International Workshop on Layered & Nanostructured Materials, July 13th 2022, Toledo, Spain.
53
"The Green hydrogen challenge: Any role for molecular materials?" Invited talk at the XVIII Escuela Nacional de Materiales Moleculares, March 22nd 2022, Santiago de Compostela, Spain.
52
"Green Hydrogen" Invited talk at Institute of Material Science of Aragon (ICMA-CASIC), May 3rd 2022, Zaragoza, Spain.
51
"Photo(electro)catalytic advanced solutions for solar to chemical energy conversion" Invited talk at the 3rd Workshop on Innovative Materials For Energy (IME), September 30th 2021, Messina, Italy (online/on live mixed conference)
50
"Sustainable and energy efficient (nano)structured oxidation electrocatalysts in acidic media from earth abundant metals" Invited talk at the E-MRS2021 Fall Meeting, September 23rd 2021, online conference.
49
"New trends in molecular magnetism: design and applications at the nanoscale" Invited seminar in the course Advances in Functional Materials: Fundamentals ,Technology and Sustainable Energy Production, Ettore Majorana Foundation and Centre for Scientific Culture, July 6th 2021, Erice, Italy (online only)
48
"Sustainable and energy efficient (nano)structured oxidation electrocatalysts in acidic media from earth abundant metals" Invited talk at the 239th meeting of the Electrochemical Society, June 3rd 2021, online conference.
47
"Fotosíntesis artificial: del laboratorio hasta la revolución de los combustibles verdes"Invited conference at the V Jornada de Química para el Profesorado de Secundaria, April 17th 2021, Universitat de València, Valencia, Spain.
46
"Novel strategies to enhance OER electro catalysis in alkaline media" Invited talk at the International Conference on Electrocatalysis for Energy Applications and sustainable Chemicals (ECat) November 25th 2020, online conference.
45
"Novel strategies to enhance OER electro catalysis in alkaline media" Invited talk at the 71st annual meeting of the International Society of Electrochemistry, September 4th 2020, online conference.
44
"Oxygen evolution electro catalysis with earth-abundant metals" Invited conference at Ernt Ruska-Centre for Microscopy and Spectroscopy with electrons, Jülich Forschungzentrum, January 22nd 2020, Jülich, Germany.

43
“Promoting electrochemical oxygen evolution in acidic media: hydrophobic stabilisation of earth-abundant catalysts” Key note presentation at the 235th Electrochemical Society (ECS) meeting, May 29th, 2019, Dallas, Texas, USA.
42
“Oxygen evolution electrocatalysis with earth-abundant metals” Invited conference at Texas A&M University, May 24th, 2019, College Station, Texas, USA.
41
“Spin crossover probes into switchable multifunctional materials” Invited talk at Phase Transition and Dynamical Properties of Spin Transition Materials (PDSTM 2019), May 9th, 2019, Gainesville, Florida, USA.
40
“A-LEAF: From basic principles to technological impact”. Invited talk at International Bunsen-Discussion-Meeting “Fundamentals and Applications of (Photo)Electrolysis for Efficient Energy Storage”, April 1st 2019, Taormina, Italy.
39
“A European-wide approach towards solar fuels”. Invited talk at nanoGe Fall Meeting (#NFM18), October 24th, 2018, Torremolinos, Spain.
38
“Composites of Co-containing polyoxometalates for water oxidation catalysis in acidic media”. Invited talk at International Symposium on Electrocatalysis (Electrocat2018), August 31st, 2018, Szczyrk, Poland.
37
“Single-molecule magnetic memory above room temperature: a spin crossover paradox”. Invited talk at Gordon Research Conference "Conductivity and Magnetism in Molecular Materials”, August 16th, 2018, Bryant University, Smithfield, RI, USA
36
“Composites of Co-containing polyoxometalates for water oxidation catalysis in acidic media”. Invited talk at the 43rd International Conference on Coordination Chemistry (ICCC), July 31st, 2018, Sendai, Japan.
35
“Fotosintesi artificial: Energia neta per a la societat del futur”. Invited seminar at XI Jornades sobre Química Verda, Universitat Rovira i Virgili, April 16th-20th, 2018, Tarragona, Spain
34
“Artificial photosynthesis: From basic principles to technological impact”. Invited FET (Future and Emerging Technologies) seminar organized by DG CNECT, DG RTD and DG ENER, March 15th, 2018, Brussels, Belgium.
33
“New applications for (very) old materials: Oxygen evolution catalysis with Prussian blue analogs”. Invited Seminar at Laboratoire de Chimie de Coordination, CNRS, November 17th, 2017, Toulouse, France.
32
“Coordination chemistry materials: Simple and powerful strategies for current challenges”. Invited Seminar at IMDEA Nanociencia, November 13th, 2017, Madrid, Spain.
31
“Oxygen evolution catalysis in acid media with heterogeneous earth-abundant metal complexes”. Invited talk at BIT’s 8th Annual Global Congress of Catalysis, October 20th-22nd 2017, Shanghai, China.
30
“Adventures in spin crossover phenomena: From molecules with memory to multifunctional synergy”. Invited Seminar at Ecole Doctoral de Chimie Moléculaire Paris Centre, Université Pierre et Marie Curie Paris 6, July 3rd 2017, Paris, France.
29
"Spin transition-induced switchable electric materials”. Invited talk at the 6th International Workshop on Phase Transition and Dynamical properties of Spin Transition Materials, PDSTM 2016, November 27th -30th 2016, Gandía, Spain.
28
“Adventures in Spin-Crossover Phenomena: From Molecules with Memory to Multifunctional Synergy”. Keynote Lecture at the 15th International Conference on Molecule-Based Magnets (ICMM), September 4th - 8th 2016, Sendai, Japan.
27
“Polyoxometalate composites for heterogeneous water oxidation catalysis”. Keynote Lecture at the 4th Frontiers in Metal-Oxide Cluster Science Symposium (FMOCS), July 10th -15th 2016, Newcastle, UK.
26
“Conferring memory effect to organic conductors via spin crossover probes”. Invited Talk at the 42nd International Conference on Coordination Chemistry (ICCC), July 8th 2016, Brest, France,
25
“Water oxidation catalysts with polyoxometalates”. Invited talk at the 9th European School on Molecular Nanoscience (ESMOLNA 2013), May 30th 2013, Tordesillas, Spain.

24
"All-inorganic earth-abundant catalysts for artificial photosynthesis". Invited Seminar at the GDCh Chemistry Colloquium, Jacobs University, November 23rd 2015, Bremen, Germany.
23
"Adventures in spin crossover phenomena". Invited Seminar at the Institut Català de Nanociència i Nanotecnologia (ICN2), October 22nd 2015, Bellaterra, Spain.
22
"Water oxidation with all-inorganic earth-abundant catalysts". Invited Seminar at the Institute of Advanced Materials (INAM), Universitat Jaume I, July 6th 2015, Castellón, Spain.
21
"Water oxidation with all-inorganic earth-abundant catalysts". Invited Seminar at the Beckman Institute, Caltech, March 31st 2015, Pasadena, California, USA.
20
"Water oxidation with all-inorganic earth-abundant catalysts". Invited Seminar at the Department of Chemistry, Oregon State University, Corvallis, USA, March 27th, 2015
19
"All-inorganic earth-abundant catalysts for artificial photosynthesis". Invited Seminar at the Department of Chemistry, Universitat de Barcelona, February 10th 2015, Barcelona, Spain.
18
"Water oxidation with all-inorganic earth-abundant catalysts". Invited Seminar at the Department of Chemical Engineering, Universitat Rovira i Virgili, October 24th 2014, Tarragona, Spain.
17
"Water oxidation catalysis with cost-effective molecule-based materials". Invited Seminar at the Department of Chemistry, Ben Gurion University of the Negev, May 15th 2014, Beersheba, Israel.
16
"Chemical Strategies to design multifunctional molecules and molecule-based materials". Invited Talk at the Workshop in Magnetism and Chemistry of Metal-Organic Networks at Surfaces, Institute of Advanced Study, Technische Universität München, November 7th 2013, Garching, Germany.
15
"Homogeneous and heterogeneus water oxidation catalysis with cobalt-containing polyoxometalates". Invited Talk at the Frontiers in Metal Oxide Cluster Science Conference (FMOCS), November 21st 2012, Puerto Calero, Spain.
14
"Multifunctional molecule-based materials:From chemical design to complex (nano?) structures". Invited Conference at the Department of Chemistry, RUTGERS University, October 25th 2011, New Brunswick, New Jersey, USA.
13
"Chemistry of Polyoxometalates: An amazing "all-purpose" class of inorganic molecules". Invited Conference at the Department of Chemistry, University of Pennsylvania, October 18th 2011, Philadelphia, Pennsylvania, USA.
12
"Multifunctional molecular materials: the dice are loaded… Let's play the game". Invited *Olivier Khan award* Conference at the 11th International Conference on Molecule-based Magnets (ICMM) September 21st-24th 2008, Firenze, Italy.
11
"Magnetic Bi-stability in Spin Crossover Nanoparticles". Invited talk at the 2nd Workshop on Current Trends in Nanoscopic and Mesoscopic Magnetism, September 1st-5th 2008, Delphi, Greece.
10
"Molecule-Based Chiral Magnets: New Synthetic Approaches and Unusual Magnetic Phenomena". Invited talk at the 10th International Conference on Molecule-Based Magnets (ICMM), August 13th-17th 2006, Victoria, Canada.
9
"Dual Function Molecular Materials: Design of Multifunctional Ferromagnets". International Chemical Congress of Pacific Basin Societies (PACIFICHEM), December 15th - 20th 2005, Honolulu, Hawaii, USA.
8
"Chiral Molecular Magnets and Conductors". Invited talk at the Gordon Conference on Inorganic Chemistry, July 17th - 22nd 2005, Newport, Rhode Island, USA.
7
"Dual-Function Molecular Materials: Design of Conducting Ferromagnets". Invited talk at the CERC3 Workshop on Nanosciences, May 2nd - 4th 2005, Baden Baden, Germany.
6
"Chemistry and physics of multifunctional molecular materials". Invited talk at the Advanced Physics and Chemistry of Materials Intensive Program (8th Erasmus summer school), June 27th - july 9th 2004, Thessaloniki, Greece.
5
"Chiral Molecular Conductors and Magnets". Invited talk at the Workshop on Molecular Materials and Functional Polymers for Advanced Devices (COST D14), March 26th - 28th 2004, London, UK.

4
“Dual-Function Molecular Materials: Conducting Magnets and Magnetic Conductors”. Invited talk at the International Simposium on Crystalline Organic Metals, Superconductors and Magnets (ISCOM), September 21st - 26th 2003, Port-Bourgenay, France.
3
“Materiales Moleculares Multifuncionales: Diseño de Metales Moleculares Ferromagnéticos”. Invited talk at the XXIX Reunión Bienal de la Real Sociedad Española de Química, July 7th - 11th 2003, Madrid, Spain.
2
“Dual-Function Molecular Materials: Design of Conducting Ferromagnets”. Invited talk at the CERC-3 Workshop on Nanoscience, April 11th - 13th 2003, Götteborg, Sweeden.
1
“Interplay of Ferromagnetism and Metallic Conductivity in Molecular Materials”. Invited talk at the International Conference on Science and Technology of Synthetic Metals (ICSM),June 29th - July 5th 2002, Shanghai, China.