MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

***IMPORTANT** – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.*

Part A. PERSONAL INFORMATION

First name	Yolanda		
Family name	Pérez Cortés		
Gender (*)	Female	Birth date (dd/mm/yyyy)	[redacted]
Social Security, Passport, ID number			
e-mail	yolanda.cortes@urjc.es	URL Web	URJC Personal
Open Research and Contributor ID (ORCID)(*)		0000-0001-9857-4472	

(*) Mandatory

A.1. Current position

Position	Professor of Inorganic Chemistry (Titular de Universidad)		
Initial date	09/01/2017		
Institution	Universidad Rey Juan Carlos		
Departament/Center	Departamento de Biología, Geología, Física y Química Inorgánica/ Escuela Superior de Ciencias Experimentales y Tecnología		
Country	Spain	Teleph. number	677840499
Key words	nanomaterials; photocatalysis; catalysis; perovskitas; bismuth-based materials;		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
10/1999-06/2004	Assistant Professor (Profesor Ayudante de Escuela) / URJC / Spain
07/2004-09/2007	Assistant Professor (Profesor Ayudante Doctor) / URJC / Spain
07/2005-12/2005	URJC Postdoc Fellow / University of Bath / United Kingdom
07/2006-12/2006	URJC Postdoc Fellow / University of Bath / United Kingdom
07/2007-02/2008	URJC Postdoc Fellow / Instituto de Tecnología Química / Spain
10/2007-12/2016	Associate Professor (Profesor Contratado Doctor) / URJC / Spain
07/2008-01/2009	URJC Postdoc Fellow / Instituto de Tecnología Química / Spain
01/2020-present	Senior Assistant Researcher / IMDEA Energy Institute / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Degree in Chemistry	Universidad de Alcalá / Spain	1998
Diploma of Advanced Studies	Universidad Rey Juan Carlos / Spain	2003
PhD in Chemistry	Universidad Rey Juan Carlos / Spain	2003

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Dr. Yolanda Pérez obtained her degree in Chemistry (University of Alcala, 1998) and her PhD (Rey Juan Carlos University, 2003) with distinction "Summa Cum Laude". From 2005 to 2008, she performed two postdoctoral stays, the first at the University of Bath (United Kingdom), under the supervision of Prof. Paul Raithby and, afterwards, at the Institute of Chemical Technology (ITQ), with Prof. Avelino Corma. Since 2017, she is Professor (Profesora Titular) at Rey Juan Carlos University, and since 2020, she is Senior Assistant Researcher in

the group of Dr. Patricia Horcajada (Advanced Porous Materials Unit) at IMDEA Energy Institute (Excellence Center María de Maeztu), dealing with the design of novel multifunctional materials (e.g. lead-free perovskites, optical-active MOFs, and other hybrid polymers and their composites). Dr. Pérez has participated in 21 research projects, she has published 52 scientific papers in high-impact international journals indexed in JCR (h-index of 17 and 834 citations) and she has gained recognition for 18 years of international-quality research (3 sexenios).

Dr. Pérez has an extensive knowledge in the fields of Nanomaterials, Organometallic Chemistry, Catalysis/Photocatalysis, Photovoltaic devices and Lubricating oils. In particular, in the field of the nanomaterials, her team highlights: 1) the design of versatile and robust materials based on titanium dioxide for the degradation of pollutants from water; 2) the preparation of bismuth-based perovskites with outstanding optoelectronic properties; 3) the development of efficient titanium-based catalysts for oxidation reactions (including the removal of sulphur in fuels). Furthermore, she is an expert in several solid-state characterization techniques: spectroscopies (PXRD, FT-IR, UV-Vis, NMR, Raman, PL), microscopies (TEM, SEM) and electrochemistry (DPV, CV, SQWV, EIS). She has published in different journals (including Journal of Materials Chemistry C (IF = 8.1), Nanotoxicology (IF = 7.34), Catalysis Science & Technology (IF = 6.1) Microporous and Mesoporous Materials IF = 5.4, Applied Catalysis A, General (IF = 5), among others).

Her research has been presented in more than 30 international and national conferences (oral communications and posters). She has collaborated with different groups that have exceptional international impact such as Johnson´s Group (University of Bath), Prof. Corma's group (ITQ-CSIC), Dr. Horcajada´s group (IMDEA Energy Institute), Prof. Garcia´s group (ITQ-CSIC), Dr. Herradon´s group (IQOG-CSIC), Prof. Navas´s group (INIA), among others. She has participated as speaker in different dissemination activities and conferences, such as in "Born Centre de Cultura I Memòria de Barcelona" (2022), "CaixaForum Zaragoza" (2019), "La Casa Encendida Madrid" (2017), "Superior Council of Scientific Research (CSIC)" and other public Universities. She has also participated in the organization of outreach and dissemination activities for students of different ages (including symposiums, seminars, lab demonstrations or gamified activities).

She is currently focused on the development of multifunctional materials for different social concerns: for performing chemical processes using clean energy and for environmental remediation. In this sense, Dr. Yolanda Pérez has been the PI of two research projects for knowledge transfer, one of them with the company *Repsol S.A.* (06/2014-09/2016) and the other in collaboration with the group of Dr. Patricia Horcajada at IMDEA Energy Institute (06/2021-02/2022). Currently she is the IP of one research project for knowledge transfer with IMDEA Energy Institute (03/2022-02/2024) and co-PI of one national project TED2021-132092B-C21.

She has supervised 1 PhD student (2 ongoing), 2 Master Theses (1 ongoing), 20 Final year Projects, 1 international student, 2 collaboration grants and 2 students of external work experience. Her former students are working for private and academia sectors (e.g. Dr. Paula Cruz is working as a R&D Researcher for the company *Tolsa* and Lydia Zazo is working in an engineering company *Intecsa Industrial*).

In addition, she has served as the Guest Editor of the Special Issue "SBA-15 and Catalysis" (for Catalysts, MDPI) and she has participated as the reviewer of different prestigious scientific journals (such as Catal. Today, ChemCatChem, Dalton Trans., Microporous Mesoporous Mater.). She has also been a board member (Vocal and Secretary) of the Royal Spanish Chemistry Society of the Territorial Section of Madrid (RSEQ-STM) (2014-2020).

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(see instructions)*

1. E. Svensson Grape, A. J. Chacón, S. Rojas, Y. Pérez, A. Jaworski, M. Nero, M. Åhlén, E. Martínez-Ahumada, M. Narongin-Fujikawa, I. Ibarra, O. Cheung, C. Baresel, T. Willhammar, P. Horcajada, A. Ken Inge. (4/15). 2023. Efficient removal of aqueous pharmaceutical pollutants by a robust anionic zirconium ellagate framework. Nature Water 1 433–442.

2. J. Ortiz-Bustos, I. Hierro, Y. Pérez*. (3/3). 2022. Photocatalytic oxidative desulfurization and degradation of organic pollutants under visible light using TiO_2 nanoparticles modified with iron and sulphate ions. Ceramics International. 48, 6905–6916. Impact Factor: 5.5. Citations = 3.

3. A. A. Babaryk†, Y. Pérez†, M. Martínez; M. Mosquera, M.H. Zehender, S.A. Svatek, E. Antolin, P. Horcajada*. (†equal contribution of the authors). 2021. Reversible dehydration–hydration process in stable bismuth-based hybrid perovskites. Journal of Materials Chemistry C 9, 11358-11367. Impact Factor: 8.1. Citations = 6

4. J. Ortiz-Bustos, I. Hierro, A. Sánchez-Ruiz, J.C. García-Martínez*, Y. Pérez*. (5/5). 2021. Tuning of type-I and type-II mechanisms for visible light degradation in tris (styryl)benzene-sensitized TiO_2 nanoparticles. Dyes and Pigments 184, pp.108802. Impact Factor: 5.1. Citations = 3.

5. J. Ortiz-Bustos, S. Gómez, J. Mazario, M. E. Domine, I. Hierro*, Y. Pérez*. (6/6). 2020. Copper and sulphur co-doped titanium oxide nanoparticles with enhanced catalytic and photocatalytic properties. Catalysis Science & Technology 10, pp.6511-6524. ISSN 2044-4753. Impact Factor: 6.1. Citations = 8.

6. P. Cruz, E.-A. Granados, F. Mariano; I. Hierro*, Y. Pérez*. (5/5). 2019. Heterogeneous oxidative desulfurization catalysed by titanium grafted mesoporous silica nanoparticles containing tethered hydrophobic ionic liquid: A dual activation mechanism. Applied Catalysis A: General 587, pp.117241-117252. Impact Factor: 5.0. Citations = 12.

7. P. Cruz, M. Fajardo, I. Hierro*, Y. Pérez*. (4/4). 2019. Selective oxidation of thioanisole by titanium complexes immobilized on mesoporous silica nanoparticles: elucidating the environment of titanium(IV) species. Catalysis Science & Technology 9, pp.620-632. Impact Factor: 5.4. Citations = 15.

8. I. Hierro*, Y. Pérez*, M. Fajardo. (2/3). 2018. Supported choline hydroxide (ionic liquid) on mesoporous silica as heterogeneous catalyst for Knoevenagel condensation reactions. Microporous and Mesoporous Materials 263, pp.173-180. Impact Factor: 4.2. Citations = 28.

9. P. Cruz, Y. Pérez*, I. Hierro*, M. Fajardo. (2/4). 2017. Titanium alkoxides immobilized on magnetic mesoporous silica nanoparticles and their characterization by solid state voltammetry techniques: Application in ring opening polymerization. Microporous and Mesoporous Materials 240, pp. 227-235. Impact Factor: 3.6. Citations = 11.

10. P. Cruz, Y. Pérez*, I. Hierro*, M. Fajardo. (2/4). 2016. Copper, copper oxide nanoparticles and copper complexes supported on mesoporous SBA-15 as catalysts in the selective oxidation of benzyl alcohol in aqueous phase. Microporous and Mesoporous Materials 220, pp.136-147. Impact Factor: 3.6. Citations = 69.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. Y. Pérez, A.J. Chacón-García, E. Svensson-Grape, T. Willhammar, A. Ken Inge, P. Horcajada. Lead-free halide perovskite@metal–organic framework composites as visible light-active photocatalysts. 1st Mediterranean Conference on Porous Materials. Crete (Greece). 2023. Spain.
Type of participation: Oral communication.

2. Y. Pérez, A.J. Chacón-García, H. García-Baldovi, A. Rodríguez-Diéguez, S. Navalón, H. García, P. Horcajada. Hybrid perovskites as potential photocatalysts for H_2 production. 8th International Workshop on Layered & Nanostructured Materials. Toledo, 2022. Spain.
Type of participation: Oral communication.

3. Y. Pérez, A. A. Babaryk, M. Martínez, M.E.G. Mosquera, S.A. Svatek, E. Antolín, E. Antolín, P. Horcajada. Reversible dehydration-hydration process in lead-free hybrid perovskites. NanoGe Fall Meeting 21. Perovskites III: Emerging Materials and Phenomena. Online.
Type of participation: Oral communication.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. Project Title: Next Generation of MOF-Based Membranes for H_2 Technologies: fuel cells and electrolyzers (H2-MOF) (TED2021-132092B-C21)
Funding Entity: Ministerio de Ciencia e Innovación
Participant Entities: COORDINADOR IMDEA Energy, SUBPROYECTO2 UC3M
Duration, from: December 2022 to: November 2021
Principal Investigator: Dr. Patricia Horcajada / Dr. Yolanda Pérez
Number of participants: 3 IMDEA Energy and 3 UC3M Grant: 179913 Euros
Type of participation: Principal Investigator 2

2 Project Title: Multifunctional nanostructured systems with enhanced biomedical, catalytic and photocatalytic applications (RTI2018-094322-B-I00)
Funding Entity: Ministerio de Ciencia, Innovación y Universidades
Participant Entities: URJC Duration, from: January 2019 to: December 2021
Principal Investigator: Dr. Santiago Gómez / Dr. Mariano Fajardo
Number of participants: 5 Grant: 113861 Euros
Type of participation: Investigator

3. Project Title: Red de Iones Metálicos en Sistemas Biológicos (CTQ2017-90802-REDT)
Funding Entity: Ministerio de Economía y Competitividad
Participant Entities: UVIGO, USC, UJA, UGR, UB, UDC, UAM, UIB, UNEX, URJC
Duration, from: January 2018 to: December 2019
Principal Investigator: Dr. Ezequiel Vázquez
Number of participants: 35 Grant: 17000 Euros
Type of participation: Investigator

4. Project Title: Design of innovative functionalized nanomaterials: Exploring their multifunctional applications in catalysis and medicinal chemistry (CTQ2015-66164-R)
Funding Entity: Ministerio de Economía y Competitividad
Participant Entities: URJC Duration, from: January 2016 to: December 2018
Principal Investigator: Dr. Mariano Fajardo / Dr. Santiago Gómez
Number of participants: 6 Grant: 100430 Euros
Type of participation: Investigator

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

1. Contract Title: Estudio, caracterización y mecanismo de acción de aditivos en lubricantes.
Contract type: Art. 83 de la LOU.
Company: Repsol S. A.
Duration: 21 June 2014-30 August 2016
Principal Investigator: Dr. Yolanda Pérez
Grant: 61.923,08 Euros