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	[redacted]		
Family name	[redacted]		
Gender (*)	Male	Birth date (dd/mm/yyyy)	[redacted]
Social Security, Passport, ID number	[redacted]		
e-mail	[redacted]	URL Web	
Open Researcher and Contributor ID (ORCID) (*): [redacted]		[redacted]	

(*) Mandatory

A.1. Current position

Position	Full Professor (Catedrático de Universidad)		
Initial date	05-12-2019		
Institution	Universidad Pablo de Olavide (UPO)		
Department/Center	Dpto. Sistemas Físicos, Químicos y Naturales	Facultad de Ciencias Experimentales	
Country	Spain	Teleph. number	[redacted]
Key words	Optical Sensors; Porous Materials; Organic Dyes		

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

Period	Position/Institution/Country/Interruption cause
2012-2019	Associate Profesor / UPO / Spain
2004-2012	Assistant Profesor / UPO / Spain
2002-2004	Postdoc / University of Sheffield / United Kingdom

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	Universidad de Córdoba / Spain	2002
Licensed	Universidad de Córdoba / Spain	1996

(Include all the necessary rows)

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

Main indicators:
Research 6y-periods (Sexenios): 5 (Date last one: 2020)
PhD theses supervised: 6 (+ 3 under research))
Total citations: 1438
Citations/year : (last 5 years): 105
Publications: 64 (Q1: 46)
H index: 23
Source: Scopus

[redacted] graduated in Chemistry in 1996 and obtained a PhD degree in 2002 at the University of Córdoba (Spain) working with optical gas sensors for nitrogen dioxide based on organic dyes thin films. In 2002 and 2003 he worked as a postdoc at the Dept. of Physics of the University of Sheffield (UK) where he expanded his previous work on gas sensors with new materials, analytes and preparation methods. In 2004 he moved back to Spain as assistant professor at the Pablo de Olavide University in Seville, where he established

a new laboratory for thin films fabrication and gas sensors. In 2006 he became associate professor applying for funding to develop research projects on gas sensors and to obtain lab equipment. During the last 10 years, he has supervised 6 PhD theses and leaded 8 competitive research projects (2 H2020 on MOFs gas sensors, 3 National, 3 Regional) and 5 research R&D contracts in close collaboration with industry in the search of new sensing materials and mechanisms in order to improve the QC in the food and perfume industries as well as the environmental control. He has co-authored 64 scientific papers in JCR journals (46 in Q1) dedicated to thin film preparation and gas sensing, has leaded 11 competitive research projects and participated in 12 more. As a result of his collaboration with the industry, JMP is the main author of two European patents, intended for exploitation. He is also member of the editorial board of Chemosensors (MPDI) and academic editor of Journal of Spectroscopy (Hindawi). Since December 2019 he is full professor.

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

C.1. Publications *(see instructions)*

10 selected publications

1. F.G. Moscoso, L.M. Rodriguez-Albelo, A.R. Ruiz-Salvador, Tania Lopes-Costa, J.M. Pedrosa, *Enhancement of the intrinsic fluorescence of ZIF-8 via post-synthetic cation exchange with Cd2+ and its incorporation into PDMS films for selective sulfide optical sensing.* **Mater. Today Chem**, 2023, *advance article.* DOI: 10.1016/j.mtchem.2022.101366

2. N. Panagiotou, F. J. G Moscoso, T. Lopes-Costa, J. M. Pedrosa and A. Tasiopoulos, *2-Dimensional Rare Earth Metal-Organic Frameworks based on a hexanuclear secondary building unit as efficient detectors for vapours of nitroaromatics and volatile organic compounds*. **Inorganic Chemistry Frontiers**, 2022-9-4850–4863. 10.1039/D2QI00799A.

3. Sousaraei, Ahmad; Queiros, Carla; Moscoso, Francisco; Silva, Ana; Lopes-Costa, Tânia; Pedrosa, José María; Cunha-Silva, Luís; Cabanillas-Gonzalez, Juan. *Reversible Protonation of Porphyrinic Metal-Organic Frameworks Embedded in Nanoporous Polydimethylsiloxane for Colorimetric Sensing*. **Adv. Mater. Interfaces**, 8, 2001759, 2021

4. F. G. Moscoso, J. Almeida, A. Sousaraei, T. Lopes-Costa, Ana M. G. Silva J. Cabanillas-Gonzalez, L. Cunha-Silva and J. M. Pedrosa. *A lanthanide MOF immobilized in PMMA transparent films as a selective fluorescence sensor for nitroaromatic explosive vapours*. **Journal of Materials Chemistry C** Vol: 8; Pag.: 3626-3630; Fecha:2020 DOI: 10.1039/d0tc00376j

5. Ahmad Sousaraei, Carla Queirós, Francisco G. Moscoso, Tania LopesCosta, Jose M. Pedrosa, Ana M. G. Silva, Luís Cunha-Silva, Juan Cabanillas-Gonzalez *Sub-ppm Amine Detection via Absorption and Luminescence Turn-On caused by Ligand Exchange in Metal Organic Frameworks* **Analytical Chemistry** Vol: 91 Pag.: 15853-15859 Fecha:2019 DOI: 10.1021/acs.analchem.9b04291

6. A. P. Vargas, F. Gámez, J. Roales, T. Lopes-Costa, and J. M. Pedrosa. *An Optical Dosimeter for the Selective Detection of Gaseous Phosgene with Ultralow Detection Limit* **ACS Sensors** Vol: 3 Pag.: 1627-1631 Fecha:2018. DOI: 10.1021/acssensors.8b00507

7. M. G. Guillén, F. Gámez, J. Roales, T. Lopes-Costa, S. M.A. Pinto, M. J. F. Calvete, M. M. Pereira, J. M. Pedrosa. *Molecular-based selection of porphyrins towards the sensing of explosives in the gas phase* **Sensors and Actuators, B: Chemical** Vol: 260 Pag.: 116-124 Fecha:2018

8. Guillén, M.G., Gámez, F., Lopes-Costa, T., (...), Cabanillas-González, J., Pedrosa, J.M. *Amplified spontaneous emission in action: Sub-ppm optical detection of acid vapors in poly[2-methoxy-5-(2-ethylhexyloxy)-1,4-phenylenevinylene] thin films* **Sensors and Actuators, B** 255, 1354-1361, 2018

9. Guillén, M.G., Gámez, F., Lopes-Costa, T., Cabanillas-González, J., Pedrosa, J.M
A fluorescence gas sensor based on Förster Resonance Energy Transfer between polyfluorene and bromocresol green assembled in thin films **Sensors and Actuators, B,** 236, 136-143, 2016

10. J. Roales, J. M. Pedrosa, P. Castillero, M. Cano, T. H. Richardson, A. Barranco, and A. R. González-Elipe, *Selective Detection of Volatile Organic Compounds by Spectral Imaging of Porphyrin Derivatives Bound to TiO2 Porous Films, **ACS*** **Applied Materials & Interfaces**, 4, 5147, 2012

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

PRINCIPAL INVESTIGATOR

1. Title: Desarrollo de sistemas electrónicos y fotónicos de olfato para la evaluación de calidad del aceite de oliva. Funding entity: Proyecto PETRI MEC (PET2007_0363_01) Participating entities: Univ. Pablo de Olavide, Univ. de Sevilla; SOS Cuétara SA. Dates, start: 2008 end: 2010 Project funding amount: 78.000 € Coordinator and PI: Jose Maria Pedrosa Poyato.

2. Title: Colorantes orgánicos ópticamente activos para el desarrollo de sensores químicos de alta sensibilidad (TEC2010-21830-C02-01) Funding entity: Ministerio de Ciencia e Innovación Participating entities: Universidad Pablo De Olavide Dates: 01/01/2011 al 31/12/2013 Project funding amount: 52.030,00 € Coordinator and PI: José María Pedrosa Poyato

3. Title: Sensores químicos y células solares basados en nanomateriales y porfirinas (FQM 2310) Funding entity: (Junta de Andalucía) Participating entities: Universidad Pablo De Olavide Dates: 27/6/2014 al 26/6/2018 Project funding amount: 159.894,00 € Coordinator and PI: José María Pedrosa.

4. Title: Sensores químicos basados en láseres de polímero conjugado dopados con colorante (MAT2014-57652-C2-2-R). Funding entity: Ministerio de Economía y Competitividad Participating entities: Universidad Pablo De Olavide Dates: 2015-2017. Project funding amount: 50.000,00 € Coordinator and PI: José María Pedrosa Poyato

5. Title: Synthesis of metal-organic frameworks as optical gas sensors- MOFsENS (PCIN-2015-169-C02-02) (consorcio M-ERA.NET 005/2014)) Funding entity: Ministerio de Economía y Competitividad Participating entities: Universidad Pablo De Olavide (consorcio: IMDEA Nanociencia, Sondar.i - ISQ Group, ICETA-Universidade do Porto, Univ. Pablo de Olavide) Dates: 2015-2018 Project funding amount: 62.500,00 € (consorcio: 320.000 €) PI: José María Pedrosa Poyato (consortium coordinator: A. M. Silva)

6. Title: Desarrollo de un prototipo de sensor óptico ultrasensible basado en reactivos colorimétricos infiltrados en capas finas nanocristalinas para la detección selectiva de gases tóxicos Funding entity: Junta de Andalucía Participating entities: Universidad Pablo de Olavide Dates: 01/02/2020-31/07/2021 Project funding amount: 47.000 €. Coordinator and PI: José María Pedrosa Poyato

7. Title: Sensores en línea basados en redes organometálicas luminiscentes para la detección óptica de vapores de explosivos y sustancias toxicas (PCI2020-112241, consorcio M-ERA.NET project7106) Funding entity: Ministerio de Ciencia e Innovación Participating entities: Univ. Pablo de Olavide (consortium: Univ Amsterdam, Univ, Chipre, Univ Balikesir Turquía), Dates: 01/01/2021-31/12//2023 Project funding amount: 148.000 € (consortium: 475.000 €) Coordinator (consortium) and PI: José María Pedrosa Poyato.

8. Title: Guided Design And Growth Of Luminescent Metal Organic Frameworks For The Development Of Optical Gas Sensors (Mof-Detect) (PY20_01258) Funding entity: Junta de Andalucía Participating entities: Universidad Pablo De Olavide Dates: 04/102021-31/12/2022 Project funding amount: 70.915,00€. Coordinator and PI: José María Pedrosa Poyato

Participation in other recent and relevant projects:

Title: European metal-organic framework network: combining research and development to promote technological solutions (EU4MOFs) (COST Action CA22147) Funding entity: European Union Participating entities: >30 Dates: 02/11/2023-01/11/2027 Member of WG: José María Pedrosa Poyato

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

PATENTS

1. Authors: Rodríguez Fernández, José Antonio, Rodríguez Lucena, David, Roales Batanero, Javier, Pedrosa Poyato, José María. Reference: EP4287.2. Title: F*ace protective device with visual exposure time indication system*. Priority Countries: EU. Date: 28-11-22, Title holder: Andalusí Beverages, S.L. Exploitation: Yes (Andalusí Beverages, S.L.).

2. Authors: Rodríguez Fernández, José Antonio, Rodríguez Lucena, David, Roales Batanero, Javier, Pedrosa Poyato, José María. Reference: EP23383138.7. Title: *Device for protection against biological agents with an expiration indicator system*. Priority Countries: EU. Date (application): 07-11-23, Title holder: Andalusí Beverages, S.L. Exploitation: submitted

CONTRACTS

1. Title: "Sistemas electrónicos y fotónicos de olfato para evaluación de la calidad del aceite de oliva"; Contract type: Convenio con empresa en el marco de Proyecto PETRI; Company: Grupo SOS CUÉTARA S.A. (Carbonell); Dates start: 11/09/2008 end: 10/09/2010; PI: José María Pedrosa Poyato; Project funding amount: 130.000 €

2. Title: "Mejora de la estabilidad química y tenacidad de perfumes". Contract type: Art. 83 LOU. Funding Company: Laboratorios Saphir S.L.U. Participating entities: Universidad Pablo de Olavide. DATES, start: 01-06-2017 end: 31-05-2018 PI: José María Pedrosa Poyato Project funding amount: 30.000 €.

3. Title: "Desarrollo y puesta a punto de un método de análisis organoléptico artificial para aceite de oliva virgen mediante el uso de un sistema de olfato electrónico". Contract type: Art. 83 LOU. Funding Company: URZANTE S.L. Participating entities: Universidad Pablo de Olavide. DATES, START: 11-11-2020 END: 15-12-2021 PI: José María Pedrosa Poyato Project funding amount: 10.345,50 €

4. Title: "Implantación de un sistema de caducidad por uso, en dispositivos de protección frente a agentes biológicos". Contract type: Art. 83 LOU. Funding Company: Andalusí Beverages S.L. Participating entities: Universidad Pablo de Olavide. DATES, START: 16-02-2021 END: 31-12-2023 PI: José María Pedrosa Poyato Project funding amount: 121.302,50 €.

Other R&D transfer merits

1. *Optimización del proceso de producción y caracterización de bebidas alcohólicas*. Ayudas del Plan Propio Investigación de la UNIVERSIDAD PABLO DE OLAVIDE para acciones de transferencia de tecnología – OTRI). Participating entities: Universidad Pablo de Olavide, Destilerías Hijos de Rafael Reyes SA. Dates, start: 01/07/2017 end 31/12/2017

2. *Detección de vertidos en frutos de la industria olivarera.* Ayudas del Plan Propio Investigación de la UNIVERSIDAD PABLO DE OLAVIDE para acciones de transferencia de tecnología – OTRI). Participating entities: Universidad Pablo de Olavide, Isotank Iberica SL. Dates, start: 01/011/2016 end 31/12/2017 Project funding amount: 4103,87 €

3. *Diseño y puesta en marcha de un prototipo de sensor colorimétrico de fosgeno*. Ayudas del Plan Propio Investigación de la UNIVERSIDAD PABLO DE OLAVIDE para acciones de transferencia de tecnología – OTRI). Participating entities: Universidad Pablo de Olavide. Dates, start: 01/07/2017 end 31/12/2017 Project funding amount: 1.103,87 €