

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	JOSE ANTONIO		
Family name	CALLES MARTÍN		
Gender (*)	MALE	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail:	Joseantonio.calles@urjc.es	URL Web https://gestion2.urjc.es/pdi/ver/joseantonio.calles	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-4453-4007		

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	2018		
Institution	University Rey Juan Carlos		
Department/Center	Mecanic, Energy and Chemical and Technology	School of Experimental Sciences and Technology	
Country	Spain	Teleph. number	914887378
Key words	Catalysis, Hydrogen, Pd-membranes, CFD, Steam reforming		

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

Period	Position/Institution/Country/Interruption cause
2018 - 2018	Professor / Rey Juan Carlos University / Spain
2002 - 2017	Associate Professor / Rey Juan Carlos University / Spain
2000 - 2002	Associate Professor / Complutense University of Madrid / Spain
1997 - 2000	Adjunct Professor / Complutense University of Madrid / Spain
1992 - 1997	Assistant Professor / Complutense University of Madrid / Spain
1989 - 1992	Research Fellow / Complutense University of Madrid / Spain
2018 - 2018	Graduate Teaching Assistant / Complutense University of Madrid / Spain
2002 - 2017	Professor / Rey Juan Carlos University / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Ph D.	Complutense University of Madrid	1994
Licensed	Complutense University of Madrid	1998

(Include all the necessary rows)

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

Jose A. Calles Martín (22/03/1965), I have a degree in Chemical Sciences from the Complutense University of Madrid (1988) and a PhD in Chemical Sciences from the Complutense University of Madrid (1994). I have carried out his professional activity at the Complutense University of Madrid until 2002 under different figures of professor (Assistant and Senior Lecturer) when I joined the Rey Juan Carlos University as Senior Lecturer of the University. I currently hold the category of full Professor.

The research activity during these years has focused on the following lines: heterogeneous acid and bifunctional catalysis, hydrogen separation by selective membranes, adsorption equilibrium and PSA processes and assurance of oil flows. In recent years, I have focused exclusively on the first 2 lines.

As general indices of research quality: 4 six-year periods of research (last one granted in 2019) and 1 six-year period of transfer (2020). I have 75 publications, of which 64 are indexed in international peer review journals (Scopus), and of which 26 are from the last 5 years. Of these publications, I have 2053 citations (Scopus), of which 1095 are from the last 5 years. I have an h-index of 30 and i10 of 51. I also co-authored 8 book chapters. I have presented papers at 110 conferences, mainly international. I have supervised 10 theses, 2 of which are in progress. On the other hand, I have participated in 31 R+D+i projects of competitive calls, being a principal investigator in 15. I have also collaborated with companies by signing 29 contracts, of which I have been principal investigator in 16. Among the prominent companies, Repsol, Enagas and Endesa stand out).

Concerning international collaborations, I have carried out two postdoctoral stays at the Chemical Engineering Department of Pennsylvania University under the direction of Dr. Alan L. Myers for a total time of 1 year. Currently, I maintain collaborations with research groups in Netherlands (University of Eindhoven), Portugal (University of Porto); Italy (University of Calabria, University of Salerno).

Finally, since I joined the Universidad Rey Juan Carlos I have held different academic management positions at the School of Experimental Sciences and Technology (degree coordinator, Deputy Director of Research and Budgets, Director of ESCET). I have also been Director of the Technological Support Center of the URJC from 2015 to 2020. I have also been a founding member, secretary (4 years) and president (2 years) of the Conference of Directors and Deans of Chemical Engineering (CODDIQ), a national association that represents university centers that teach Chemical Engineering in Spanish Universities.

In summary:

Research articles: 75 (64 in JCR); Last 5 years: 26

Total cites (Scopus): 3006; Last 5 years: 1423

H index = 30; i10 index = 51

Six-year research periods: 4 (last in 2019)

Six-year transfer periods: 1 (last in 2020)

Research projects with public funding: 31 (15 as main researcher)

Research contracts with companies: 29 (16 as main researcher)

PhD supervised: 10 (plus 2 in progress); Last 10 years: 6.

Part C. RELEVANT MERITS (sorted by typology)**C.1. Publications** (see instructions)

1. M. Salomé Macedo; Nagore Acha; Miguel A. Soria; Luis M. Madeira; (5/8) Jose A. Calles; Raul Sanz; David Alique; Miguel A. Soria. Effect of ceria particle size as intermediate layer for preparation of composite Pd-membranes by electroless pore-plating onto porous stainless-steel supports. Separation and Publication Technology, 327, 124932, 1-77. 2023.
2. Megía, P.J., Morales, A., Vizcaíno, A.J., Calles, J.A., Carrero, A. Oxidative steam reforming of acetic acid on Ni catalysts: Influence of the La promotion on mesostructured supports. International Journal of Hydrogen Energy, 52, 1136–1145. 2024.
3. A. Caravella; D. Martínez-Díaz; G. Prenesti; V. Michienzi; (5/7) J.A. Calles; R. Sanz; D. Alique. 2023. Effect of flux direction through supported metal membranes: Golden ratio as

- maximum benefit in pure hydrogen and concept of swap point in mixture. *Journal of Membrane Science*. 683, 121842, 1-17 (2023).
4. D. Alique, P. Leo; David Martínez-Díaz; (4/5) Jose A. Calles; Raul Sanz. Environmental and cost assessments criteria for selection of promising palladium membranes fabrication strategies. *International Journal of Hydrogen Energy*. Elsevier. 51-D, pp.302-319. 2023.
 5. D. Martínez-Díaz; V. Michienzi; (3/6) J.A. Calles; R. Sanz; A. Caravella; D. Alique. Versatile and resistant electroless pore-plated Pd-membranes for H₂-separation: morphology and performance of internal layers in PSS tubes. *Membranes*. MDPI. 12-5, pp.1-22. 2022.
 6. Martínez-Díaz, D., Leo, P., Sanz, R., Calles, J.A., Alique, D. Life cycle assessment of H₂-selective Pd membranes fabricated by electroless pore-plating. *Journal of Cleaner Production*, 316, 128229, 2021.
 7. D- Sanz-Villanueva; D. Alique; A.J. Vizcaíno; (4/5) J.A. Calles; R. Sanz.. On the long-term stability of Pd-membranes with TiO₂ intermediate layers for H₂ purification. *International Journal of Hydrogen Energy*. 47-21, pp.11402-11416. 2021.
 8. A. Fernandez; C. Casado, D. Alique, J.A. Calles, J. Marugan. Modeling of H₂-Permeation through Electroless Pore-Plated Composite Pd-Membranes by Computational Fluid-Dynamics. *Membranes*. 11-2, pp 123. 2021.
 9. Megía, P.J. Vizcaíno, A.J. Ruiz-Abad, M. Calles, J.A., Carrero, A. Coke evolution in simulated bio-oil aqueous fraction steam reforming using Co/SBA-15. *Catalysis Today*, Volume 367, 145. 2021.
 10. Cortese, M., Ruocco, C., Palma, V., Megía, P.J., Vizcaíno, A.J., Carrero, A., Calles, J.A. On the support effect and the Cr promotion of Co based catalysts for the acetic acid steam reforming. *Catalysts*, 11(1), 1–16, 133. 2021.

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

1. N. Acha; D. Alique; M. S. Macedo; J.A. Calles; R. Sanz. Adjustment of intermediate barriers to increase the permeation capacity of composite Pd-membranes: Effect of asymmetry and constituent materials of the layer. 16th International Conference on Catalyst in Membrane Reactors (ICCMR16-2023). 2023. España. Oral presentation.
2. 3 D. Alique; D. Martínez-Díaz; V. Michienzi; R. Sanz; J.A. Calles; G. Prenesti; A Caravella. Elucidating the effect of permeate flux direction through supported metal membranes: golden ratio and swap-point revelation. 16th International Conference on Catalyst in Membrane Reactors (ICCMR16-2023). 2023. España. Oral presentation.
3. M. Salomé Macedo; Nagore Acha; Miguel A. Soria; Luis M: Madeira; Jose A. Calles; Raul Sanz; David Alique. Influence of Particle Size in CeO₂ Intermediate Layers for the Fabrication of Pd-membranes by Electroless Pore-Plating. 14th European Congress of Chemical Engineering and 7th European Congress of Applied Biotechnology. 2023. Alemania. Oral presentation.
4. A. Morales, P.J. Megía, J.A. Calles, A.J. Vizcaíno, A. Carrero. Hydrogen production by oxidative steam reforming of acetic acid on Ni catalysts: Influence of the support and La addition. *European Hydrogen Energy Conference 2022*. Madrid. Oral presentation.
5. D. Alique; Daniel Sanz Villanueva; Arturo J Vizcaíno; Raúl Sanz; Jose A. Calles. On the Operation Stability and Increase of Acetic Acid Conversion in Packed-bed Steam Reformers by Electroless Pore-Plating Membranes Containing TiO₂ Intermediate Layers. *Euromembrane 2022*. Italia. Oral presentation
6. M. Cortese, P. J. Megía, C. Ruocco, V. Palma, A. Carrero, J. A. Calles. Experimental study of supported catalysts for the steam reforming of acetic acid. *IV International Conference on Catalysis and Chemical Engineering*, 2020, Los Angeles (USA). Oral presentation.
7. D. Alique; P. Leo; D. Martínez-Díaz; R. Sanz; J.A. Calles. Towards a better Sustainability of Electroless Pore-Plate Membranes: Life Cycle Assessments on Fabrication Strategies. 23th World Hydrogen Energy Conference (WHEC 2022). 2022. Turquía. Oral presentation.
8. A. Carrero, J.A. Calles, A.J. Vizcaíno, P.J. Megía. Coke evolution in bio-oil aqueous fraction steam reforming over Co/SBA-15 catalysts. *5th International Congress on Catalysis for Biorefineries*. Turku, 2019. Oral presentation.

9. A.Carrero, J.A. Calles, A.J. Vizcaíno, P.J. Megía. Influence of promoters addition to Co-based catalysts on acetic acid steam reforming. *European Hydrogen Energy Conference (EHEC2018)*. Málaga, 2018. Oral presentation.
10. A.Carrero, J.A. Calles, A.J. Vizcaíno, P.J. Megía. Agglomerated Co-Cr/SBA-15 catalysts for hydrogen production through acetic acid steam reforming. *International Conference on Clean Energy (ICCE2018)*. Famagust, Chiprus, 2018. Oral presentation

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. Renewable hydrogen production by oxidative reforming of bio-oil aqueous fractions with mesostructured and shaped catalysts. Ref.TED2021-131499B-I00. Funding: 110.000 €, Agencia Estatal de Investigación. From: 1/12/22 to 30/11/24. Member of the research team.
2. Green hydrogen production from waste biomass pyrolysis fractions by auto-thermal reforming in a membrane reactor Ref: PID2020-117273RB-I00. Funding: 193.600,00 €, Agencia Estatal de Investigación. From: 01/09/21 to 31/08/24. Main Researchers: Alicia Carrero and Jose A. Calles
3. Production of biooil and hydrogen from microalgae by hydrothermal liquefaction and steam reforming processes in membrane reactors. Ref: ENE2017/83696/R. Funding: 229.900 €. Ministerio de Economía y Competitividad. From: 01/01/2018 to 31/12/2020. Main Researchers: Alicia Carrero and Jose A. Calles
4. Oxidative reforming of aqueous fractions from biomass for the production of renewable hydrogen using agglomerated catalysts. Funding: 36.383,58 €, Comunidad de Madrid. From: 15/06/22 to 14/06/24. Member of the research.
5. Urban bioeconomy: from biowastes to biofuels and bio/based chemicals. Funding: 260.276 €. Comunidad de Madrid. Ref: BIOTRES/CM; P2018/EMT/4344. From: 01/10/2019 - 31/04/2023. Member of the research team.
6. Production of clean transport fuels from agroforestry and oilseed residues (RESTOENE-2) Ref: S2013/MAE-2882. Funding: 144.000 €. Comunidad de Madrid. From: 01/10/2014 to 30/09/2018. Member of the research team.
7. Production of clean fuels from agricultural, forestry and oilseed residues (RESTOENE) Ref: S2009/ENE-1743. Funding: 150.344 €. Comunidad de Madrid. From: 01/01/2010 to 31/12/2013. Member of the research team.
8. Production of hydrogen and liquid fuels by thermochemical processes from microalgae. Ref: CTQ2013-44447-R. Funding: 187.000 €, Ministerio de Economía y Competitividad. From: 01/01/2014 to 31/12/2016. Role: Main Researchers: Alicia Carrero and Jose A. Calles
9. Development of catalysts and membranes for obtaining hydrogen from bioalcohols. Ref: CTQ2010-21102-C02-01 Funding: 189.970 €, Ministerio de Economía y Competitividad. From: 01/01/2011 to 31/12/2013. Member of the research team.
10. Hydrogen Extraction by Bioethanol Reforming and Water Gas Displacement Reaction in Membrane Reactors. Ref: ENE 2007-66959. Funding: 100.000 €, Ministerio de educación y ciencia. From: 01/10/2007 to 01/10/2010. Member of the research team.

C.3. Contracts, technological or transfer merits

1. Development of palladium membranes to obtain high-purity hydrogen by valorization of beer bagasse. Funding:5035. €. Enagas. From: 27/07/2021 to 30/01/2022. Main Researchers: D. Alique.
2. Development of reservoir fluid characterization and flow assurance techniques. Funding: 95.000 €, Repsol. From: 15/09/2014 to 15/07/2015. Main Researchers: J.A. Calles, B. Coto.
3. Fluid flow study in multiphase conditions using CFD techniques. Funding: 60.397 €, Repsol. From: 15/11/2009 to 15/11/2011. Main Researchers: J.A. Calles, E. Schiavi.
4. Crude Oil Flow Assurance: Asphaltene Precipitation Study. Funding: 283656 €, Repsol. From: 01/01/2006 to 01/22/2011. Main Researchers: J.A. Calles, J. Dufour.