**Part A. PERSONAL INFORMATION**

| CV date | 29-04-2026 |
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|---|---|---|---|
| First name | PATRICIA | | |
| Family name | PIZARRO DE ORO | | |
| Research codes | | ORCID | 0000-0002-4764-0254 |
| | | ID SCOPUS | 6508017438 |

**A.1. Current position**

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|---|---|---|---|
| Position | Full Professor | | |
| Initial date | 22/01/2024 | | |
| Institution | Universidad Rey Juan Carlos | | |
| Department/Center | Departamento de Tecnología Química, Energética y Mecánica | | |
| Country | Spain | Teleph. number | |
| Key words | Heterogeneous catalysts, zeolites, organic wastes, catalytic pyrolysis, dehalogenation, dry reforming, sustainable aviation fuels | | |

**A.2. Previous positions**

| Period | Position/Institution/Country/Interruption cause |
|---|---|
| 20/12/2017 – 21/01/2024 | Profesora Titular de Universidad / Rey Juan Carlos University / Spain |
| 01/10/2000 - 19/12/2017 | Lecturer with tenure track (Contratado Doctor) / Rey Juan Carlos University / Spain |
| 01/10/2000 - 30/09/2008 | Lecturer (Prof. Asociados tipo LRU) / Rey Juan Carlos University / Spain |
| 01/03/2000 - 30/09/2000 | Collaborating researcher (investigador colaborador) / y Juan Carlos University / Spain |

**A.3. Education**

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| CHEMICAL ENGINEERING | UNIVERSIDAD COMPLUTENSE DE MADRID | 2000 |
| PhD IN CHEMICAL ENGINEERING | UNIVERSIDAD REY JUAN CARLOS | 2005 |

**Part B. CV SUMMARY**

**Research activities**

Her research activities started at Rey Juan Carlos University, through the PhD work that was focused on the development of mesostructured titanium dioxide with photocatalytic applications for the degradation of pollutants in the aqueous phase. She made a short predoctoral stay of 3 months in the “Laboratoire D'application de la Chimie A L'environnement (LACE)”, Lyon (France), as well as a post-doctoral stay of 6.5 months in the “Max-Planck-Institute für Kohlenforschung”, in Germany. Her scientific activity has also covered other fields such as the development of heterogeneous catalysts for the epoxidation of olefins and the production of hydrogen by both photocatalytic decomposition of water and catalytic decomposition of methane. In this last line, it should be noted that, together with the research group she belongs to, they have been pioneers in the application of mesostructured carbons as catalysts of methane decomposition, achieving outstanding conversions and stability against deactivation.

Since 2012 most of her research activity has been carried out as Associate Researcher (curently as “Senior”) at IMDEA Energy Institute, focusing on two main fields: a) development

of redox materials for their application in thermochemical cycles for energy storage or dissociation of $CO_2$ and $CH_4$ into syngas or hydrogen; b) development of catalysts and sustainable processes (mainly pyrolysis and hydrotreatments) for the valorization of organic waste (lignocellulose, plastics, FORSU, tires, etc.) into fuels and chemicals.

The main outcomes from her research activities are listed below:

- **Participation in projects** funded by both public calls (24 projects) and private companies (4 contracts). It is worth mentioning her role as **leader of a work package of the European project** CASCATBEL (7th Framework Programme, 2013-2017), as **co-IP in 4 national projects** REDEFINERY (RTI2018-097227-B-I00; 2019-2022), HYWARE (PID2021-124705OB-I00; 2022-225), CIRPLACAR (PID2021-124705OB-I00; 2022-2024) and BIOCATFLY (PID2024-157003OB-C22; 2025-2028). Of special relevance is her role as **Coordinator of the European Project BIOCTANE** (Horizon Europe, 2022-2026).
- **Scientific production**: she has co-authored 90 articles indexed in the JCR and 78 located in the first quartile (Q1) of the classification by impact index. Co-author of 6 book chapters, 2 patents granted nationally and more than 100 contributions to congresses, many of them international and as oral communication (including several plenary talks). Her h-index is 42 SCOPUS) or 46 (Google Scholar).
- Three six-year terms complements ("sexenios de investigación"), the last one in 2020.

**Part C. RELEVANT MERITS** *(last ten years)*

**C.1. Publications**

1. J. López, L. Amodio, M.M Alonso-Doncel,…, D.P. Serrano(AC). "Enhanced oil dehalogenation during catalytic pyrolysis of WEEE-derived plastics over Fe- and Ca-modified zeolites". Journal of Environmental Chemical Engineering 12 (2024) 111790. Authors: 9; Position: 8/9. DOI: 10.1016/j.jece.2023.111790. *International collaboration*.
2. F.M. González-Pernas, I. Moreno, D.P. Serrano, P. Pizarro(AC). "Enhanced monoaromatic hydrocarbons production via pressurized catalytic pyrolysis of end-of-life tires". Catalysis Today 427 (2024) 114435. DOI: 10.1016/j.cattod.2023.114435.
3. E. Giglio, A. Marino, P. Pizarro, J.M. Escola, M. Migliori, G. Giordano and D.P. Serrano(AC). "Critical issues for the deployment of plastic waste pyrolysis". Catal. Sci. Technol. 13 (2023) 5799-5820. DOI: 10.1039/d3cy00445g. *Review article. International collaboration*.
4. H. Hernando, B. Puértolas, P: Pizarro, J. Fermoso, J. Pérez-Ramírez, D. P. Serrano (AC). "Cascade Deoxygenation Process Integrating Acid and Base Catalysts for the Efficient Production of Second-Generation Biofuels". ACS Sustainable Chem. Eng. 7(21) (2019) 18027–18037. DOI: 10.1021/acssuschemeng.9b04921. *International collaboration*
5. J. Prech, P. Pizarro D. P. Serrano and J. Cejka(AC). "From 3D to 2D zeolite catalytic materials". Chemical Society Reviews 47 (2018) 8263-8308. DOI: 10.1039/c8cs00370j. *International collaboration*
6. D.P. Serrano, J.A. Melero, G. Morales, J. Iglesias, P. Pizarro. "Chapter 12: Biomass Conversion over Zeolite Catalysts". Book: Zeolites in Catalysis: Properties and Applications (2017). Editorial: RSC. ISBN: 978-1-78262-784-5. DOI: 10.1039/9781788010610-00441.
7. A. Berenguer, T.M. Sankaranarayanan, G. Gómez, I. Moreno, J.M. Coronado, P. Pizarro, D.P. Serrano(AC). "Evaluation of transition metal phosphides supported on ordered mesoporous materials as catalysts for phenol hydrodeoxygenation". Green Chemistry, 18(7) (2016) 1938–1951. DOI: 10.1039/C5GC02188J.

8. T.M. Sankaranarayanan, A. Berenguer, C. Ochoa-Hernández, I. Moreno, P. Jana, J.M. Coronado, D.P. Serrano, P. Pizarro(AC). “Hydrodeoxygenation of anisole as bio-oil model compound over supported Ni and Co catalysts: Effect of metal and support properties”. Catalysis Today, 243 (2015) 163–172. DOI: 10.1016/j.cattod.2014.09.004.

**C.2. Congress**

1. P. Pizarro, A. Souza, S. Turriziani, M. Alonso-Doncel and D.P. Serrano. “Tailoring the Cu/MFI catalyst properties for the conversion of bioderived 2,3-Butanediol to butenes”. Type: Oral presentation. Congress: 5th Iberoamerican Congress on Biorefineries (5-CIAB), Place: Jaén (España). Dates: 2 to 4 October 2024.
2. P. Pizarro. “Opportunities and Challenges of Hierarchical Zeolites for the Valorization of Organic Wastes”. Type: Invited talk. Congress: International Zeolitic Material School. Place: Zamora. Date: 10-12 April 2024.
3. P. Pizarro. “Hierarchical zeolites: synthesis strategies and singular properties”. Type: Invited talk. Congress: Workshop on zeolites. Place: Liblice (República Checa). Date: 26 October 2021.
4. A. Lago, M. Sanz, J.M. Gordón, I. Moreno, J. Fermoso, D.P. Serrano, P. Pizarro. “Evaluating the suitability of co-processing gardening residues and the organic fraction of municipal solid wastes via thermal and catalytic pyrolysis”. Type: Oral presentation. Congress: 8th International Conference on Sustainable Solid Waste Management. Place: Thessaloniki (online) (Greece). Date: 23-25 June 2021.
5. P. Pizarro. “Relevancia del uso de zeolitas en procesos de transformación de biomasa”. Type: Invited Talk. Congress: Química en espacios confinados: de los retos energéticos a las bioaplicaciones. Place: Santander (España). Date: 24 July 2017.
6. P. Pizarro. Zeolites with hierarchical porosity. Type: Invited talk. Congreso: GEZ school on Zeolites: New trends & future challenge. Place: Móstoles (Madrid). Date: 27-27 November 2017.
7. P. Pizarro. “Biocarburantes”. Type: Invited talk. JORNADA: Jornada “Energías alternativas en el transporte por carretera”. Institution: Ente Vasco de la Energía (EVE). Place: Bilbao Exhibition Centre, Bilbao. Date: 25 November de 2014.

**C.3. Research projects**

1. Title: Production of sustainable aviation fuels from biowaste derived molecules through innovative processes and catalysts (BIOCATFLY, PID2024-157003OB-C22) Funding entity: Ministerio de Ciencia, Innovación y Universidades). Total amount: 140.000,00 € PI: **Patricia Pizarro (Subproject 2)**.
2. Title: Synergetic integration of BIOteChnology and thermochemical CaTalysis for the cAscade coNvErsion of organic waste to jet-fuel (BIOCTANE, Ref. 101084336). Funding entity: Agencia Ejecutiva Europea de Clima, Infraestructuras y Medio Ambiente (CINEA). Total IMDEA: 594,273.75 € (Total granted: 2,951,957.50 €). Entity of affiliation: IMDEA Energy. Contribution: **Coordinator**. Duration: 2022-2026.
3. Title: HUB de Innovación de Combustibles de Aviación Sostenibles (MAD VUELA SOSTENIBLE, Ref. 59/180948.9/23). Funding entity: Comunidad de Madrid and European Union. “Ayudas para contribuir a la mejora de la cooperación público-privada en materia de I+D+I mediante proyectos de efecto tractor en consorcio”. Total IMDEA: 1.120.885,86€ (Total granted: 3.728.297,32€) / (IMDEA Energía). Tractor company: REPSOL, S.A. Entity of affiliation: IMDEA Energy. Contribution: researcher. Duration: 2024-2027.

4. Title: Circularidad de los residuos plásticos de automoción: reciclado químico (CIRPLACAR, Ref. PID2021-124705OB-I00). Funding entity: Ministerio de Ciencia, Innovación y Universidades). Total amount: 172.500,00 € PI: **Patricia Pizarro** / David P. Serrano. Entity of affiliation: IMDEA Energy. Contribution: **PI**. Duration: 2022-2024.
5. Title: Redefining the waste-energy nexus: a new concept of regional refinery within the framework of the circular economy (REDEFINERY). Ref: RTI2018-097227-B-I00. Funding entity: Ministerio de Ciencia, Innovación y Universidades. Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (Retos Investigación 2018). Total amount: 181.500,00 € PI: Javier Dufour / **Patricia Pizarro**. Entity of affiliation: IMDEA Energy. Contribution: **PI**. Duration: 2019-2022.
6. Title: Urban bioeconomy: transformation of bio-waste into biofuels and bioproducts of industry interest (BIOTRES). Reference: S2018/EMT-4344. Funding entity: Comunidad de Madrid/Programa de Actividades de I+D entre Grupos de Investigación en Tecnologías 2018. Total IMDEA: 247.769,34 € (Total granted: 1.023.585,35 €). PI: Juan Antonio Melero. Contribution: Researcher. Duration: 2019-2022.
7. Title: CAScade deoxygenation process using tailored nanoCATalysts for the production of BiofuELs from lignocellullosic biomass (CASCATBEL, NMP4-LA-2013-6043 07). Funding entity: European Commission. Seventh Framework Programme (FP7). Large-Scale Integrating Collaborative Project. Total IMDEA: 1.151.995,38€ (Total granted:6.216.466,46€). PI: David Serrano. Entity of affiliation: IMDEA Energy. Contribution: **Researcher and workpackage leader**. Duration: 2013-2017.

**Part D. TEACHING AND ACADEMIC ACTIVITIES**

- Co-supervision of 5 doctoral thesis and other 3 in progress.
- Supervision of more than 60 final works in different Degrees (chemical engineering, energy engineering, environmental engineering).
- Teaching at the International School of Doctorate at URJC, providing the PhD students with specific skills for their research work.
- Teaching in different Degrees (Chemical Engineering, Energy Engineering, Environmental Engineering, Industrial Engineering, etc.) and Masters (Chemical Engineering, Industrial Engineering, Energy Resources and Technologies).
- Member of the jury of 15 PhD Thesis and of Final Works for different Degrees and Masters.
- Director of the Master in Industrial Engineering at URJC (2017/18 to 2020/21).
- Coordinator of the last academic courses (4º or 5º) of Chemical Engineering program at URJC (2005/06 to 2016/17).
- Coordinator of 3rd course and responsible of Internships of Chemical Engineering program and responsible of at URJC (2025/26 to date).