MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

CV date	14.12.2022

Part A. PERSONAL INFORMATION

First name	Oihane		
Family name	Sanz Iturralde		
Gender (*)	Female	Birth date	08/04/1977
ID number	44150919G		
e-mail	oihane.sanz@ehu.es		
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-5779-0619		

(*) Mandatory

A.1. Current position

Position	Ph.D Assistant Professor		
Initial date	09/10/2018		
Institution	University of the Basque Country (UPV/EHU)		
Department/Center	Applied Chemistry	Faculty of Chemistry	
Country	Spain	Teleph. number	+34943015413
Key words	Structured catalyst, Microchannel reactors, Catalytic processes for energy production		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
01/01/2017-08/10/2018	Hired Doctor (Joven Investigador JIN)/Faculty of Chemistry/ University of the Basque Country/ Spain
01/10/2015-31/12/2016	Hired Doctor/Faculty of Chemistry/ University of the Basque Country/ Spain
24/09/2015-31/12/2016	Temporary Profesor/Faculty of Science and Technology /University of the Basque Country/Spain
01/12/2009-23/09/2015	Hired Doctor/Faculty of Chemistry/ University of the Basque Country/ Spain
01/09/2007-31/11/2009	Hired Doctor/Instituto de Ciencia de Materiales de Sevilla (ICMS), Centro Mixto Universidad de Sevilla - Consejo Superior de Investigaciones Científicas/ Spain
10/10/2002-18/12/2006	PhD fellow/ Faculty of Chemistry/ University of the Basque Country/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
B.Sc.	University of the Basque Country/Spain	2001
M.Sc	University of the Basque Country/Spain	2003
Dr.Sc	University of the Basque Country/Spain	2007

Part B. CV SUMMARY

Oihane Sanz Iturralde has expertise in structured catalytic systems for energy and environmental Applications of the University of the Basque Country (UPV / EHU). Her research area in Heterogeneous Catalysis is focused on structured catalytic systems. Initially, in her Doctoral Thesis, she studied catalysts structured on metallic monoliths (longitudinal channel and foam-type monoliths), focusing

especially on the problem of the adherence of the catalytic layer on the metallic surface, its characterization and catalytic behavior. As a logical evolution of the knowledge that she acquired in the preparation of structured catalysts, her interest shifted to micro-channel reactors. This emerging technology for process intensification is considered today as one of the great challenges of catalytic engineering. All this led him to carry out his second research period as a post-doctoral researcher at the Seville Institute of Materials Science (ICMSE, University of Seville-CSIC), under the supervision of Prof. José Antonio Odriozola. During this period, she studied different metal alloys susceptible to use as micro-channel reactors, taking into account their catalytic behavior when depositing the catalytic layer and under reaction conditions. In addition, she developed a micro-channel plate welding process for the fabrication of the final block. In 2009 she obtained a contract for "Specialization Grants for PhD Researchers at the UPV / EHU" in the group of Prof. Mario Montes, where the work focused on the development of the catalytic coating process on metallic substrates and reactors of micro-channels. From the point of view of the study processes, the common thread has been the processes for environmental protection (oxidation of VOCs, elimination of nitrates in water, elimination of dyes in water ...) and energy (Fischer-Tropsch synthesis, methanol reforming, synthesis of dimethyl ether, biodiesel synthesis, CO combustion, methane reforming, Sabatier reaction etc.). He has been principal investigator of the Project "Sabatier reaction in microchannels for the production of synthetic natural bio-gas (CTQ2015-73901-JIN, MINECO). Additionally, she is co-editor with Prof. Centeno, Prof. Romero-Sarria and Prof. Gandía of the special issue in tribute to the careers of Professors Montes and Odriozola in Catalysis Today Journal (Structured and micro-structured catalysts: A fascinating future for a sustainable world).

Her professional activity in Structured Catalytic Systems for Energy and Environmental Applications is oriented to academic activity teaching in the area of Chemical Engineering, direction of 4 doctoral theses (3 in progress), 11 master's thesis (2 in progress), and 9 final degree project (3 in progress). My excellent mentoring capacities is demonstrated as former graduate students/postdocs are currently professors at different universities, teachers at high school and working in industry (Electroquímica Hernani, FYM - HeidelbergCement Group, TECNALIA Research & Innovation, Iniciativas Bioenergéticas, S.L.…).

Moreover, he has organize of the 5th International Conference on Structured Catalysts and Reactors ICOSCAR5, etc.) as well as participate in R&D projects with national companies (CEPSA, Técnicas Reunidas, Acerinox, Novargi, Mugape ...) and foreign companies (Petrobras). Among the national groups he has collaborated with include: Prof. Odriozola (US), Profs. Gandía and Arzamendi (UPNA), Prof. Monzón (U. Zaragoza), Prof. Ávila (ICPCSIC), Prof. Medina (URiV), Prof. Delgado (U. Cádiz). He has also collaborated with groups from Argentina (UNL, UNSL, CINDECA), Brazil (UF Pernambuco, UF Uberlandia), Venezuela (IVIC), USA (U. Oklahoma), Belgium (UCL), Germany (U. Bremen), Holland (Delft University of Technology), France (U. Lille) and Italy (Poilitecnico di Milano).

Part C. RELEVANT MERITS

C.1. Publications

1. Authors: M. Ibáñez, O. Sanz (CA), A. Egaña, I. Reyero, F. Bimbela, L.M. Gandía, M. Montes, Year: 2021, Title: Performance comparison between washcoated and packed-bed monolithic reactors for the low-temperature Fischer-Tropsch synthesis, Journal: **Chemical Engineering Journal** 425: 130424. https://doi.org/10.1016/j.cej.2021.130424

2. Authors: F. Sadegh, N. Politakos, E. González De San Román, O. Sanz, I. Pérez-Miqueo, S.E. Moya, R. Tomovska, Year: 2020, Title: A green synthesis of nanocatalysts based on reduced graphene oxide/magnetic nanoparticles for the degradation of Acid Red 1, Journal: **RSC Advances** 10 (64): 38805–38817. https://doi.org/10.1039/D0RA06311H

3. Authors: M.A. Ashraf, O. Sanz, M. Montes, S. Specchia, Year: 2018, Title: Insights into the effect of catalyst loading on methane steam reforming and controlling regime for metallic catalytic monoliths, Journal: **International Journal of Hydrogen Energy** 43(26): 11778–11792. 10.1016/j.ijhydene.2018.04.126

4. Authors: D. Merino, O. Sanz (CA), M. Montes, Year: 2017, Title: Effect of the thermal conductivity and catalyst layer thickness on the Fischer-Tropsch synthesis selectivity using structured catalysts, Journal: **Chemical Engineering Journal** 327: 1033–1042. https://doi.org/10.1016/j.cej.2017.07.003

5. Authors: O. Sanz (CA), I. Velasco, I. Reyero,…, M. Montes, Year: 2016, Title: Effect of the thermal conductivity of metallic monoliths on methanol steam reforming, Journal: **Catalysis Today** 273: 131–139. https://doi.org/10.1016/j.cattod.2016.03.008

6. Authors: Sanz, O. (CA), I. Velasco, I. Pérez-Miqueo, ..., M Montes, Year: 2016, Title: Intensification of hydrogen production by methanol steam reforming, Journa: **International Journal of Hydrogen Energy** 41(10): 5250–5259. https://doi.org/10.1016/j.ijhydene.2016.01.084

7. Authors: O. Sanz (CA), F.J. Echave, F.J. Romero-Sarria, J.A. Odriozola, M. Montes, Year: 2013, Book Chapter: **Advances in Structured and Microstructured Catalytic Reactors** for Hydrogen Production. Renewable Hydrogen Technologies: Production, Purification, Storage, Applications and Safety, Elsevier B.V. (2013), pp. 201-224, https://doi.org/10.1016/B978-0-444-56352-1.00009-X

8. Authors: L.C. Almeida, O. Sanz, J. D'Olhaberriague, S. Yunes, M. Montes (CA). Year: 2013, Title: Microchannel reactor for Fischer-Tropsch synthesis: Adaptation of a commercial unit for testing microchannel blocks, Journal: **Fuel** 110: 171–177. https://doi.org/10.1016/j.fuel.2012.09.063

9. Authors: L.C. Almeida, F.J. Echave, O. Sanz,…, M. Montes (CA), Year: 2011, Title: Fischer–Tropsch synthesis in microchannels, Journal: **Chemical Engineering Journal** 167: 536-544. https://doi.org/10.1016/j.cej.2010.09.091

10. Authors: O. Sanz (CA), F.J. Echave, J.A. Odriozola, M. Montes, M. Year: 2011, Title: Aluminum anodization in oxalic acid: Controlling the Texture of Al2O3/Al monoliths for catalytic applications, Journal: **Industrial and Engineering Chemistry Research** 50: 2117–2125 https://doi.org/10.1021/ie102122x

C.2. Congress

1. O. Sanz. Intensificación de procesos catalíticos mediante reactores estructurados. 1º Congreso Internacional de Química. 2020. Tabasco (México). Keynote.

2. O. Amorrortu, I. Gomez-Lizarraga, M. Montes, O. Sanz. Influencia del espesor de capa en monolitos recubiertos de Ni/La-Al2O3. IV Encuentro de Jóvenes Investigadores SECAT. 2020. Bilbao (Spain) Oral participation.

3. M. Ibáñez, O. Sanz, A. Egaña, M. Montes. Comparison among coated and packed monolithic reactors for Fischer-Tropsch synthesis. 6th International Conference on Structured Catalysts and Reactors (ICOSCAR6). 2019. Bad Herrenalb (Germany). Oral participation.

4. A. Egaña, O. Sanz, M. Montes. Fischer-Tropsch synthesis intensification in metallic foam structures. XXIII International Conference on Chemical Reactors (CHEMREACTOR-23). 2018. Ghent (Belgium). Oral participation.

5. I. Pérez-Miqueo, O. Sanz, M. Montes. Structuration of Cu/ZnO/Al2O3 catalyst in monoliths for methanol synthesis. EUROPACAT (EFCAT 2017). 2017. Florence (Italy). Oral participation.

6. A. Egaña, O. Sanz. A. Moral, F. Bimbela, L.M. Gandía, M. Montes. Catalizadores Fischer-Topsch para baja relación H2/CO. XXV Congreso Iberoamericano de Catálisis (CICAT). 2016. Montevideo (Uruguay). Oral participation.

7. O. Sanz, I. Velasco, I. Reyero, I. Legorburu, G. Arzamendi, L.M. Gandia, M. Montes. Effect of thermal conductivity of metallic monoliths on methanol steam reforming. 5th International Conference on Structured Catalysts and Reactors (ICOSCAR5). 2016. Donostia/ San Sebastián (Spain). Oral participation.

8. M. Montes, I. Velasco, O. Sanz, J.A. Odriozola. L.M. Gandía, Structuring Pd7ZnO catalyst for methanol steam reforming. Catalytic Hydrogen Generation, 2014 AIChE ANNUAL MEETING. Atlanta (USA). Oral participation.

9. F.J. Echave, O. Sanz, I. Velasco, G. Arzamendi, L.M. Gandía, J.A. Odriozola, M. Montes. A kinetic study of steam reforming of methanol in microchannel reactors. IMRET 12- The International Conferences on Microreaction technology. 2012. Lyon (France). Poster participation.

10. O. Sanz, A. Del Río, M.A. Garrido, A. Aristizabal, F.J. Echave, S. Contreras, F. Medina, A. Monzón, M. Montes. Metallic monoliths for nitrates reduction in water. EUROPACAT X. 2011. Glasgow (UK). Oral participation.

C.3. Research projects

1. Proyecto. RTI2018-096294-B-C31, PROCESOS“POWER-TO-X” PARA LA VALORIZACION DE CO2 EN REACTORES CATALITICOS ESTRUCTURADO" INVESTIGADOR PRINCIPAL. Plan Nacional. Mario Montes Ramírez. (Universidad del País Vasco). 01/02/2019-31/12/2021. 151.250 €. Miembro de equipo.

2 . Proyecto. Convocatoria de Grupos de Investigación del Sistema Universitario Vasco (IT1069-16). Gobierno Vasco. Mario Montes. (Universidad del País Vasco). 01/01/2016- 31/12/2021. 152.000 €.

3. Proyecto. CTQ2015-73901-JIN, Reacción de Sabatier en microcanales para la producción de Bio-gas natural sintético. Plan Nacional. Oihane Sanz Iturralde. (Universidad del País Vasco). 01/01/2017-31/12/2019. 158.000 €. Investigador principal.

4. Proyecto. ENE2015-66975- C3-3-R, Sistemas catalíticos estructurados para la producción de biocombustibles. Plan Nacional. Mario Montes Ramírez. (Universidad del País Vasco). 01/01/2016-31/12/2019. 161.000 €. Miembro de equipo.

5. Proyecto. ENE2012-37431-C03-02, Aprovechamiento de gas no convencional: Reactores de microcanales en GTL. Plan Nacional. Mario Montes Ramírez. (Universidad del País Vasco). 01/01/2013-31/12/2015. 153.280 €. Miembro de equipo.

6. Proyecto. EN2009-14522-C05-04, Integración de reactores catalíticos de microcanales para la producción de hidrógeno a partir de alcoholes. Plan Nacional. Mario Montes Ramírez. (Universidad del País Vasco). 01/09/2010-31/12/2012. 190.212 €. Miembro de equipo.

7. Proyecto. EN2009-14522-C05-01,, Integración de reactores catalíticos de microcanales para la producción de hidrógeno a partir de alcoholes. Plan Nacional. Jose Antonio Odriozola Gordón. (Universidad de Sevilla). 01/01/2010-31/08/2012. 190.212 €.

C.4. Contracts, technological or transfer merits

1. Contrato. Estudio de catalizadores estructurados para la reacción de deshidrogenación de olefinas. CEPSA. Mario Montes. (Universidad del País Vasco).01/09/2021-30/11/2021.

2. Contrato. Desarrollo de catalizadores estructurados para procesadores de combustible Técnicas Reunidas, S.A. Mario Montes. (Universidad del País Vasco). 01/01/2014-01/04/2014. 42.647 €.

3. Contrato. Desarrollo de sistemas catalíticos compactos para aplicaciones energéticas Centro para el Desarrollo Tecnológico Industrial; Técnicas Reunidas, S.A. Mario Montes. (Universidad del País Vasco). 01/04/2011-01/04/2013. 375.930 €.

4. Contrato. Validación de reactores de microcanales soldados por difusión bonding mediante la síntesis de combustibles líquidos Centro para el Desarrollo Tecnológico Industrial; IMPROEQUIPE S.A.. Mario Montes. (Universidad del País Vasco). 01/03/2011-01/03/2012. 30.000 €.