

Part A. PERSONAL INFORMATION

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| CV date | 02/06/2023 |
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|-----------------------|--|---------------------|--|
| First and Family name | SALVADOR ORDÓÑEZ GARCÍA | | |
| Researcher codes | Open Researcher and Contributor ID (ORCID**) | 0000-0002-6529-7066 | |
| | SCOPUS Author ID (*) | 7006671620 | |
| | WoS Researcher ID (*) | I-4685-2012 | |

(*) *Optional*

(**) *Mandatory*

A.1. Current position

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|--------------------------------|---|--------|--|
| Name of University/Institution | UNIVERSITY OF OVIEDO | | |
| Department | CHEMICAL AND ENVIRONMENTAL ENGINEERING | | |
| Address and Country | Faculty of Chemistry; Julián Clavería s/n, 33006-Oviedo- SPAIN | | |
| Phone number | +34985103437 | E-mail | sordonez@uniovi.es |
| Current position | FULL PROFESSOR | From | 28/3/2012 |
| Key words | Catalytic processes for the conversion of biomass into fuels and chemical products, catalyst deactivation, heterogeneous catalysis, chemical reactor design and simulation, waste treatment and upgrading, emerging pollutants, syngas catalytic upgrading, chlorinated pollutants, VOCs abatement, environmental catalysis, adsorption technology, biofuels, hydrogen chemical storage, partial oxidation. | | |

A.2. Education

| PhD, Licensed, Graduate | University | Year |
|----------------------------|---------------------------------------|------|
| Industrial Chemistry M.Sc. | UNIVERSITY OF OVIEDO | 1995 |
| Chemical Engineer Ph. D. | UNIVERSITY OF OVIEDO (Honour Mention) | 1999 |

A.3. General indicators of quality of scientific production (see instructions)

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| Number of Research Periods (sexenios): | 4 (last one: 2014-2019) |
| Number of supervised PhDs: | 19 (7 with Honour Mention, 12 from January 2010) |
| Articles in indexed journal (Web of Science-core): | 215 (128 from 1/1/2011) |
| Articles in Q1 journals (Web of Science): | 173 (103 from 1/1/2011) |
| Total Citations (Web of Science-core): | 5020 |
| Citation average (per article): | 26 |
| Citation average per year (2016-2021): | 550 |
| Citations of the most cited research article: | 212 |
| h-index (Web of Science, 09/5/2022): | 42 |

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Salvador Ordóñez (1972) is Full Professor at the Department of Chemical and Environmental Engineering of the University of Oviedo since 2012. He received the Young Researcher Award (<40 years old) from the Ibero-American Federation of Catalysis Societies (FISOCAT) in 2010 for his research career. His research was performed both at the University of Oviedo and research internships at other universities, such as Delft University of Technology, Catholic University of Louvain, Polytechnic University of Torino and the University of Berkeley. His interests are focused on the application of heterogeneous catalysis and chemical reactors technology to different environmental problems (VOCs abatement, treatment of waste and wastewater polluted with organochlorine compounds, reduction of NO_x, elimination of emerging pollutants in water, etc.), as well as the development of processes based on sustainable or renewable raw materials (membrane reactors for the production of hydrogen, production of fuels and chemical products from inedible biomass using catalytic processes, recovery

of methane content in gases of mine venting, hydrogen chemical storage, etc.). Adsorption processes (both in the gas phase and in the aqueous phase), chemical processes simulation, and electro-catalytic and photocatalytic technologies are also among his research interests. As transversal aspects, he has worked intensively in the application of different techniques for characterization of materials, such as physisorption techniques, chemisorption, electron microscopy (SEM and TEM), XPS, X-ray diffraction, etc.

He is the author or co-author of more than 210 scientific articles published in international journals (JCR-indexed journals), five patents, and several book chapters. He has also participated in research contracts and technology consulting contracts with different companies and public administrations. In the academic activity, he has taught since 1999 in the areas of knowledge of Chemical and Environmental Engineering in several B.Sc. and M.Sc. degrees (Chemical Engineering, Biotechnology, Industrial Engineering, etc.). Prof. Ordóñez is also a member of the Spanish Society of Catalysis and of the Royal Spanish Society of Chemistry, Spanish representative in the Board of the European Federation of Catalysis Societies (EFCATS), member of several scientific committees of different national and international Congresses, including the Chair of the Organizing Committee of the SECAT-17 Congress in Oviedo, and he is reviewer of different leading journals in the field of Catalysis and Process and Environmental Engineering. From May 2016 to February 2021, he was Director of the Research Management Area at the University of Oviedo. From 2019 he is collaborator of the Spanish Research Agency (AEI), in the area of Chemical Science and Technology (CTQ).

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

C.1. Publications (ten relevant papers, from 126, in the period 2011-2022)

1. D. Ursueguía, E. Díaz, S. Ordóñez, "Evaluation of HKUST-1 as Volatile Organic Compound Adsorbents for Respiratory Filters", *Langmuir*, 38 (2022) 14465-14474. (i.i.=4.331)
2. P. Rapado, L. Faba, S. Ordóñez, "Influence of delignification and reaction conditions in the aqueous phase transformation of lignocellulosic biomass to platform molecules", *Bioresource Technology*, 321 (2021) 124500 (i.i. 7.539)
3. R. Peláez, P. Marín, S. Ordóñez, "Synthesis of poly(oxymethylene) dimethyl ethers from methylal and trioxane over acidic ion exchange resins: A kinetic study", *Chemical Engineering Journal* 396 (2020) 125305. (i.i.=10.652)
4. L. Faba, D. Garces, E. Díaz, S. Ordóñez, "Aqueous-Phase Transformation of Glucose into Hydroxymethylfurfural and Levulinic Acid by Combining Homogeneous and Heterogeneous Catalysis", *ChemSusChem*, 12 (2019) 924-934 (i.i.=7.41)
5. I. Krivtsov, E. García-Lopez, G. Marci, L. Palmisano, Z. Amghouz, J.R. García, E. Díaz, S. Ordóñez, "Selective photocatalytic oxidation of 5-HMF to 2,5-furandicarboxylaldehyde in aqueous suspensions of g-C₃N₄", *Appl. Catal. B* 204 (2017) 430-439 (i.i. 11.698)
6. J. Cueto, L. Faba, E. Díaz, S. Ordóñez, "Performance of basic mixed oxides for aqueous phase 5-hydroxymethylfurfural-acetone aldol condensation", *Applied Catalysis B: Environmental*, 201 (2017) 221-231 (i.i. 11.698)
7. Y. Patiño, E. Díaz, S. Ordóñez, "Pre-concentration of nalidixic acid through adsorption-desorption cycles", *Chemical Engineering Journal* 283 (2016) 486-494 (i.i.=6.216)
8. J. Quesada, L. Faba, E. Díaz, S. Bennici, A. Auroux, S. Ordóñez, "Role of surface intermediates in the deactivation of Mg-Zr mixed oxides in acetone self-condensation: A combined DRIFT and ex-situ characterization approach", *Journal of Catalysis* 329 (2015) 1-9 (i.i.=6.844)
9. L. Faba, E. Díaz, S. Ordóñez, "Improvement on the Catalytic Performance of MgZr Mixed Oxides for FurfuralAcetone Aldol Condensation by Supporting on Mesoporous Carbons", *ChemSusChem* 6 (2013) 463-473 (i.i.=7.226)
10. P. Marín, Y. Patiño, F. V. Díez, S. Ordóñez, "Modelling of hydrogen perm-selective membrane reactors for methane steam reforming" *International J. Hydrogen Energy* 37 (2012) 18433-18445 (i.i.=3.582)

C.2. Research projects (only those granted in competitive calls).

1. *“Bioplatform molecules for hydrogen storage and for manufacturing sustainable monomers (BIOHYDROMER)”*
Ministerio de Ciencia y Tecnología, Plan Nacional, (PID2020-112587RB-100)
Scientific coordinators: Salvador Ordóñez and Eva Díaz, University of Oviedo
Dates: September 2021-August 2024, Budget: 240 000 €, Type of participation: scientific coordinator (IP)
2. *“Scaling of a catalytic multifunctional reactor for manufacturing mesitylene from acetone”*
Ministerio de Ciencia y Tecnología, Pruebas de Concepto, (PDC2021-120835-C21)
Scientific coordinator: Salvador Ordóñez, University of Oviedo
Dates: September 2021-August 2024, Budget: 126 500 €, Type of participation: scientific coordinator (IP)
3. *“Development of catalysts and processes to obtain organo-oxygenated and aromatic compounds of industrial interest from platform biomolecules”*
Ministerio de Educación y Ciencia, Plan Nacional, (CTQ2017-89443-C3-2-R)
Scientific coordinators: Salvador Ordóñez and Eva Díaz, University of Oviedo
Dates: January 2018-December 2020, Budget: 139150 €, Type of participation: scientific coordinator (IP)
4. *“Competitive founding of research activities in the Principality of Asturias: Group of Catalysis, Reactors and Control”*
Asturias Local Government
Scientific coordinator: Salvador Ordóñez, University of Oviedo
Dates: January 2021-December 2023, Budget: 141000 €, Type of participation: scientific coordinator
5. *“Methane recovery and harnessing for energy and chemical uses at coal mine sites (METHENERGY+)”*, coordinated by the University of Oviedo, involving eleven partners (both industrial and academic from seven European countries).
European Union (Research Fund for Coal and Steel), (Ref: UE-RFCS-2016- 754077)
Scientific coordinator: Salvador Ordóñez, University of Oviedo
Dates: July 2017 - June 2020, Budget: 380417 €, Type of participation: Project scientific coordinator
6. *“Development of stable catalytic processes to obtain fuels and chemical products through condensation and hydrogenation of platform molecules derived from biomass”*
Ministerio de Educación y Ciencia, Plan Nacional, (CTQ2014-52956-C3-1-R)
Scientific coordinators: Salvador Ordóñez and Eva Díaz, University of Oviedo
Dates: January 15-December 17, Budget: 206000 €, Type of participation: Scientific Coordinator

C.3. Contracts, technological or transfer merits

1. *“Assessment of the manufacture of dimethylcarbonate from CO₂ and renewable syngas”*
Funding body: BluePlasmaPower; Scientific Coordinator: Salvador Ordóñez
Date: April 2021-September 2021 Budget: 35 350 €
2. *“Dolomite fines for CO₂ adsorption and upgrading”*
Funding body: INTOCAST; Scientific Coordinator: Salvador Ordóñez
Date: February 2021-December 2021 Budget: 17 000 €
3. *“Development of catalysts for the selective transformation of bioethanol to heavy alcohols”*
Funding body: AICIA, Junta de Andalucía; Scientific coordinator: Salvador Ordóñez
Date: September 2020-August 2021 Budget: 34000 €
4. *“Research for determining the depuration and chemical upgrading strategies of application to the syngas generated during the gasification of refuse-derived fuels generated in COGERSA”*
Funding body: COGERSA; Scientific coordinator: Salvador Ordóñez
Date: February 2018 – April 2019 Budget: 18000 €
5. *“Research on the effect of the physicochemical properties and the heavy metal content of WWTP sludge received at COGERSA in its thermochemical assessment (Valorastur), Ref (FUO-099-18)”*
Funding body: COGERSA; Scientific coordinator: Eva Díaz
Date: February 2018 – April 2019 Budget: 17500 €

6. "Investigation of sludge from wastewater treatment plants in Asturias for its use through a range of substrates for soils, for lipid extraction and for energy use as an alternative fuel (AsturSludge), Ref (FUO-063-17)"
Funding body: COGERSA Scientific coordinator: Salvador Ordóñez
Date: february 2017 – february 2018 Budget: 17500 €
7. "Study on Volatile Organic Organic Compounds (VOCs) present in greenhouses, Ref (FUO-EM-143-15)"
Funding body: Arquimea; Scientific coordinator: Eva Díaz y Salvador Ordóñez
Date: april 2015 – may 2015 Budget: 5000 €
8. "Technical report on the properties of different gases used to obtain electrical energy, Ref (FUO-EM-344-14)"
Funding body: EDP; Scientific coordinator: Salvador Ordóñez
Date: november 2014 – november 2015 Budget: 6000 €
9. "Experimental study for the selection of catalyst and operating conditions for the conversion of synthesis gas into (mono / poly) methylal using the three-stage reactor designed by the company"
Funding body: Blue Plasma Power Scientific coordinator: Salvador Ordóñez
Date: july 2014 – june 2015 Budget: 123 843 €
10. "Obtaining fuels from waste fractions received at COGERSA"
Funding body: COGERSA Scientific coordinator: Salvador Ordóñez
Date: january 2014 – december 2014 Budget: 17 990 €

C.4. Patents (five in total, two in the period 2010-2020)

1. "Catalytic method for the synthesis of mesitylene from acetone"
S. Ordóñez, E. Díaz, L. Faba, J. Quesada
Application No.: 2 792 176, Priority country: Spain Owner entity: University of Oviedo
2. "Method for obtaining high surface magnesium oxide for CO₂ adsorption, high surface magnesium oxide and its use"
S. Ordóñez, A. Vega, E. Díaz, M. León
Application No.: ES2354671, Priority country: España
Priority date: 13/10/2011, Owner entity: University of Oviedo

C.5. Congress communications (2011-2021)

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| • Key note and plenary lectures (international congresses): | 5 |
| • Key note and plenary lectures (national congresses): | 1 |
| • Oral communications (international congresses): | 22 |
| • Oral communications (national congresses): | 19 |
| • Poster communications (international congresses): | 36 |
| • Poster communications (national congresses): | 20 |

C.7. PhD supervised (2010-2020)

- 12 Ph.D Thesis from 2010 (overall, 22): 10 PhD in Chemical Engineering and 1 in Materials Science. 3 of the awarded with the Honour mention of the University of Oviedo, 8 of them with awarded with the International/European Mention. One of them (Laura Faba) with awarded with SECAT and ANQUE Doctoral Awards.
- Average of six JCR/Ph.D. during this period.

C.8. Scientific management

- Director de "Área de Gestión de la Investigación" at the University of Oviedo (2016-2021)
- Collaborator in the Spanish Agency for Research, AEI (CTQ-IQM) (2019-ongoing)
- Spanish Representative in the EFCATS Board

C.9. Other merits

- Regular evaluator of more than thirty journals indexed in the Science Citation Index.