



CV date	12/01/2022
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Part A. PERSONAL INFORMATION

First name	Ricardo		
Family name	Chacartegui Ramírez		
Gender (*)		Birth date	
ID number			
e-mail			URL Web
Open Research and Contributor ID (ORCID)(*)			

A.1. Current position

Position	Catedrático de Universidad (Full Professor)		
Initial date	2016		
Institution	Universidad de Sevilla		
Department/Center	Ingeniería Energética		
Country	Spain	Teleph. number	
Key words	Energy, Storage, Renewables, LCE		

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Ingeniería Energética y Fluidomecánica	Universidad de Sevilla	2005
MsC Ingeniero Industrial (Especialidad Mecánica)	Universidad de Sevilla	1998

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

Ricardo is full professor at the Energy Engineering Department of the University of Seville. He obtained his PhD in 2005, and since 2006 he has more than 130 documents registered in Scopus and more than 60 publications in international congresses since 2007. Among the associations that he has belonged are: American Chemical Society; founding member of the European Biomass Research Network (EUBREN) and the European Biomass Association Industry (EUBIA); member of SDEWES center (Sustainable Development of Energy Water and Environment). His current research metrics are h-index: 33(Scopus) and 37 (Google Scholar) and 30 since 2017 and i10-index 76 (Google Scholar), 69 since 2017. The total number of citations is +4000 in Google Scholar and +3000 in Scopus, with an annual average of cites in the last five years (2017-2021) of +600(Google Scholar) and +450 (Scopus) per year. He has been director of 6 doctoral theses and currently directs another four. He has participated in more than 60 projects in collaboration with the industry he has 9 patents. International collaboration. He has participated in 9 European projects, being PI of the University of Seville in 7 of them and he has coordinated the H2020 Project SOCRATCES, GA 727348, (2018-2020, € 4 975 402,50) developing a novel concept of thermochemical energy storage system based on Calcium looping to integrate into concentrating solar power plants. He has also coordinated USE participation in three Marie Curie Sklodowska program projects, Researchers' Night EU action in years 2012-2013, 2016-2017 and,2018- 2019. He has also coordinated the USE team's tasks in the projects Low Carbon Economy in Schools, Interreg Sudoe CLimAct (<https://www.climact.net>), and in the Interreg Med Low Carbon Mobility project, Remedio (<https://remedio.interreg-med.eu/>). Besides he has coordinated several Spanish Ministry national projects related to the development and use of new biomaterials for reversible high-performance electrolyzers, diesel particulates abatement or controlled microporous combustion of agriculture residues to control temperature profiles and emissions. He has experience in systems integration, and he has directed projects of biomass, residues or solar technologies (CHP, PS10, PS20, Solaben, Solnova1, 2 and 4). Among other societies, he belonged to EUBREN (European Biomass Research Network), American Chemical Society

(ACS) and Centre for Sustainable Development of Energy, Water and Environment Systems (SDEWES). He also belongs to R&D collaborative Europe/ America international networks as Almacenamiento de Energía Solar para Comunidades Aisladas (ONCYT) (RED 717RT0535), Red Iberoamericana de Eficiencia Térmica Industrial (RIETI) (RED 719RT0062 -Investigador) in the framework of TES systems and Energy efficiency.

In the period 2012-2014, he was the director of the Technology Transfer Office of The University of Seville with a relevant activity regarding IPR and collaboration with the productive sector (i.e., it is the second institution of Spain in the number of international patents), where he was in charge of all IPR activities, and he participated and was a member of all the relevant Technology Transfer activities in Spain and International. Since 2014-2022 he has been the director of the Science Dissemination office of the University of Seville (namely Research Promotion and Science Culture Office). He is involved in the most relevant activities and dissemination activities in Spain. Since 2016 he has participated actively in dissemination activities of science in schools, with projects within Youth with Researchers (<https://piiisaandalucia.blogspot.com/>), where some of the projects he mentored, linked to green schools and solar energy received national recognitions and awards.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (selected from 130)

- 1. Scientific paper.** Sarrión, Beatriz; Perejón, Antonio; Sánchez-Jiménez, Pedro E.; Amghar, Nabil; Chacartegui, Ricardo; Valverde, José Manuel; Pérez-Maqueda, Luis A.(5/7). 2021. Calcination under low CO₂ pressure enhances the calcium Looping performance of limestone for thermochemical energy storage CHEMICAL ENGINEERING JOURNAL. ELSEVIER SCIENCE SA. 417. ISSN 1385-8947.
- 2. Scientific paper.** Orihuela, M. Pilar; Miceli, Paolo; Ramírez-Rico, Joaquín; Fino, Debora; Chacartegui, Ricardo. (5/5). 2021. Ceria-based catalytic coatings on biomorphic silicon carbide: A system for soot oxidation with enhanced properties CHEMICAL ENGINEERING JOURNAL. ELSEVIER SCIENCE SA. 415. ISSN 1385-8947.
- 3. Scientific paper.** Carro, A.; Chacartegui, R.; Ortiz, C.; Carneiro, J.; Becerra, J. A.(2/ 5). 2021. Energy storage system based on transcritical CO₂ cycles and geological storage APPLIED THERMAL ENGINEERING. PERGAMON-ELSEVIER SCIENCE LTD. 193. ISSN 1359-4311.
- 4. Scientific paper.** Ortiz, C.; Chacartegui, R.; Valverde, J. M.; Carro Paulete, Andrés; Tejada, C.; Valverde, J.(2/6). 2021. Increasing the solar share in combined cycles through thermochemical energy storage ENERGY CONVERSION AND MANAGEMENT. PERGAMON-ELSEVIER SCIENCE LTD. 229. ISSN 0196-8904, ISSN 1879-2227.
- 5. Scientific paper.** Orihuela, M. Pilar; Espinoza, Lorena; Ripoll, Nicolás; Chacartegui, Ricardo; Toledo, Mario. (4/5). 2021. Natural gas-supported gasification of polyethylene and wood mixtures in a porous medium reactor ENERGY CONVERSION AND MANAGEMENT. PERGAMON-ELSEVIER SCIENCE LTD. 233. ISSN 0196-8904, ISSN 1879-2227.
- 6. Scientific paper.** Ortiz, Carlos; Valverde, José Manuel; Chacartegui, Ricardo; Pérez-Maqueda, Luis A.; Giménez-Gavarrell, Pau. (3/5). 2021. Scaling-up the calcium-looping process for CO₂ capture and energy storage KONA Powder and Particle Journal. Hosokawa Powder Technology Foundation. 38, pp.189-208. ISSN 0288-4534, ISSN 2187-5537.
- 7. Scientific paper.** Ortiz, C.; Tejada, C.; Chacartegui, R.; Bravo, R.; Carro, A.; Valverde, J. M.; Valverde, J.(3/7). 2021. Solar combined cycle with high-temperature thermochemical energy storage ENERGY CONVERSION AND MANAGEMENT. PERGAMON-ELSEVIER SCIENCE LTD. 241. ISSN 0196-8904, ISSN 1879-2227.
- 8. Scientific paper.** Arcenegui-Troya, Juan; Sánchez-Jiménez, Pedro Enrique; Perejon, Antonio; Valverde, Jose Manuel; Chacartegui, Ricardo; Pérez-Maqueda, Luis Allan. (5/

- 6). 2020. Calcium-Looping Performance of Biomineralized CaCO₃ for CO₂ Capture and Thermochemical Energy Storage INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH. AMER CHEMICAL SOC. 59-29, pp.12924-12933. ISSN 0888-5885, ISSN 1520-5045.
9. **Scientific paper.** Chacartegui, R. (AC); Alovio, A.; Ortiz, C.; Valverde, J. M.; Verda, V.; Becerra, J. A.(1/6). 2016. Thermochemical energy storage of concentrated solar power by integration of the calcium looping process and a CO₂ power cycle APPLIED ENERGY. ELSEVIER SCI LTD. 173, pp.589-605. ISSN 0306-2619, ISSN 1872-9118.
10. **Scientific paper.** Ortiz, C.; Chacartegui, R. (AC); Valverde, J. M.; Becerra, J. A.; Perez-Maqueda, L. A.(2/5). 2015. A new model of the carbonator reactor in the calcium looping technology for post-combustion CO₂ capture FUEL. ELSEVIER SCI LTD. 160-9500, pp.328-338. ISSN 0016-2361, ISSN 187

C.2. Congress (selected from >80)

1. Carlos Ortiz; Marco Binotti; Mateo Romano; Jose Manuel Valverde; Ricardo Chacartegui. Off-Design Model of Concentrating Solar Power Plant with Thermochemical Energy Storage Based on Calcium-Looping. SOLARPACES 2018 (SI PERIODICO). 2018. Participativo - Ponencia oral (comunicación oral)
2. Ricardo Chacartegui; Carlos Ortiz; Luis Pérez Maqueda; Luis Miguel Romeo; Gerhard Shories; Antonia Lorenzo; Marco Grippa; Vittorio Verda; Angeliki Lemonidou; José Manuel Valverde. Solar Calcium-Looping Integration for Thermochemical Energy Storage: SOCRATCES Project. SOLARPACES 2018 (SI PERIODICO). 2018. Participativo - Ponencia oral (comunicación oral).
3. Giuseppe Masci; Carlos Ortiz; Ricardo Chacartegui; Vittorio Verda; Jose Manuel Valverde. The Ammonia Looping System for Mid-Temperature Thermochemical Energy Storage. 21st Conf. Process Integr. Model. Optim. Energy Sav. Pollut. Reduct., (SI PERIODICO). 2018. Participativo - Ponencia oral (comunicación oral)
4. Reyes Fernandez; Carlos Ortiz; Ricardo Chacartegui; Jose Manuel Valverde; J.A. Becerra. Thermochemical Energy Storage for enhancing the dispatchability in PV plants. 13st Conference on Sustainable Development of Energy, Water and Environment Systems-SDEWES Conference (SI PERIODICO). 2018. Participativo - Ponencia oral (comunicación oral).
5. Carlos Ortiz; Ricardo Chacartegui; Jose Manuel Valverde; Alessandro Alovio; J.A. Becerra. Calcium looping process for Thermochemical Energy Storage in CSP plants . Integration assessment of direct and indirect power cycles. 11th Conference on Sustainable Development of Energy, Water and Environment Systems-SDEWES Conference (SI PERIODICO). 2016. Participativo - Ponencia oral (comunicación oral).
6. Jesús Lizana; Ricardo Chacartegui; Ángela Barrios-Padura; Carlos Ortiz; Alberto Vilches. Evaluation of thermal energy storage technologies for heating, cooling and hot water applications road to zero energy buildings. 11th Conference on Sustainable Development of Energy, Water and Environment Systems- SDEWES Conference (SI PERIODICO). 2016. Participativo - Ponencia oral (comunicación oral)

C.3. Research projects

1. **Project.** "A European Competence Framework for a Low Carbon Economy and Sustainability Through Education - ECF4CLIM". Comisión Europea. **Principal Researcher (PI)**. 01/10/2021-30/09/2025. 462.500 € Global Project 4M€
2. **Project.** Cerámicas Conductoras de Protones para Electrolizadores Reversibles de Alta Eficiencia y Aplicaciones Power to X. Ministerio de Ciencia, Innovación y Universidades. **co Principal Researcher (coIP)** 01/06/2020-31/05/2023. 72.600 €

3. **Project.** Sistema de almacenamiento termoquímico de energía para plantas solares de concentración - SunStorCa(OH)₂. Junta de Andalucía (Consejería de Economía y Conocimiento). **Principal Researcher (PI)**. 01/01/2020-31/12/2022. 122.968 €
4. **Project.** ToWards thE CARbon offsEtting in MED WECAREMED. Comisión Europea. **Principal Researcher (PI)**. 01/06/2021-30/06/2022. 142.800 € Global Project 490000€
5. **Project.** Desarrollo de sistema de filtración de partículas para calderas de biomasa basado en materiales biomiméticos. Junta de Andalucía (Consejería de Economía y Conocimiento). **Principal Researcher (PI)**. 01/02/2020-30/04/2022. 89.400 €
6. **Project.** SOLar Calcium-looping integRAtion for Thermo-Chemical Energy Storage (SOCRATCES). Grant Agreement No. 727348 European Commission. Coordinator of the project. **Principal Researcher (PI)**. 01/01/2018-31/12/2021. 403.880,89 € Global Project 4,97M€
7. **Project.** REgenerating mixed-use MED urban communities congested by traffic through Innovative low carbon mobility sOLutions - REMEDIO. Comisión Europea. **Principal Researcher (PI)**. 01/10/2016-31/10/2019. 237.500 € Global Project 2,3M€
8. **Project.** Optimised microturbine solar power system (OMSOP). FP7 European Commission. Researcher. 01/02/2013-01/02/2017. 297.340 € Global Project 5,84M€
9. **Project.** Desarrollo de Turbocompresores Centrífugos de Dióxido de Carbono Supercrítico para Implementación en Sistemas de Producción de Potencia Limpios y con Alta Eficiencia. Junta de Andalucía - Consejería de Innovación, Ciencia y Empresas. Researcher. 03/02/2010-31/12/2013. 226.116 €
10. **Project.** SOE1/P3/P0429, Atuar na transição para una economía de baixo carbono em escolas - desenvolvimento de ferramentas de apoio. "ClimACT" **Principal Researcher (PI)**. Interreg Sudoe. European Commission. 01/07/2016-30/06/2019. Global Budget: 1,3M€

C.4. Contracts, technological or transfer merits

11. **Patent of invention.** R Chacartegui et al. FILTRO PARA PARTÍCULAS DE MOTORES DIÉSEL UTILIZANDO CARBURO DE SILICIO BIOMÓRFICO 19/07/2021. Universidad de Sevilla (100.0%).
12. **Patent of invention.** R Chacartegui et al.. INSTALACIÓN DE ALMACENAMIENTO DE ENERGÍA TERMOQUÍMICAMECÁNICA Y PROCEDIMIENTO DE ALMACENAMIENTO DE ENERGÍA 08/03/2021. Universidad de Sevilla (100.0%).
13. **Patent of invention.** R Chacartegui et al.. Sistema integrado de captura de CO₂ y producción de bicarbonato de sodio (NaHCO₃) A partir de Trona (Na₂CO₃ - 2H₂O - NaHCO₃) 07/05/2018. UNIVERSIDAD DE SEVILLA (100.0%).
14. **Patent of invention.** R Chacartegui et al. Sistema integrado de calcinación-carbonatación y ciclo de lazo cerrado de CO₂ para almacenamiento de energía termoquímica y generación de energía eléctrica 30/10/2017. UNIVERSIDAD DE SEVILLA (100.0%)
15. **Patent of invention.** R Chacartegui et al. Ciclo combinado de turbina de aire húmedo y ciclo orgánico de Rankine integrados para generación de energía eléctrica 14/12/2016. UNIVERSIDAD DE SEVILLA (100.0%).
16. **Patent of invention.** Chacartegui Ramirez, Ricardo; Becerra Villanueva, José Antonio; Valverde Millán, José Manuel; Bonaventura, Davide. SISTEMA INTEGRADO DE CAPTURA DE CO 19/07/2016. UNIVERSIDAD DE SEVILLA.