



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date	07/07/2023
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First name	Gutiérrez Ortiz		
Family name	Francisco Javier		
Gender (*)	Male	Birth date (dd/mm/yyyy)	-
Social Security, Passport, ID number	-		
e-mail	frajaqutor@us.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0003-0967-9788		

(*) Mandatory

A.1. Current position

Position	Catedrático de Universidad (Professor)		
Initial date	14/04/2021		
Institution	Universidad de Sevilla		
Department/Center	Ingeniería Química y Ambiental	E. T. S. de Ingeniería	
Country	Spain	Phone number	954487368
Key words	Chemical and Energy Process Engineering, Modeling and Simulation, Supercritical Water Reforming/Gasification, Biofuels, Adsorption, Gas Desulfurization		

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

Period	Position/Institution/Country/Interruption cause
03/08/2009 – 13/04/2021	Profesor Titular/ Universidad de Sevilla
25/01/2008 – 02/08/2009	Profesor Contratado Doctor/ Universidad de Sevilla

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	Universidad de Sevilla	2002
Industrial Engineer	Universidad de Sevilla	1994

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

Doctor Industrial Engineer (2002). Associate Professor in the Department of Chemical and Environmental Engineering at the Engineering School of the University of Seville (2009).

Between 1993 and 2005, he focused his research activity on the field of flue gas desulfurization through almost all existing technologies. He participated in four ECSC projects, an ERDF project, and a National Plan project, from which he supervised his first thesis (2007). Between 1994 and 1995, he was doing research at CIEMAT in the desulfurization by circulating fluid bed. From 2009 to 2013, he did research in the desulfurization of oxy-combustion and biogas gases from landfill, supervising another thesis (2016). In the desulfurization research lines, he has participated in seven R&D&I contracts.

Another research line developed between 2003 and 2006 has been the filtration of hot gases, through an ECSC project (2001-2006), from which he supervised his second thesis (2012). He participated in an R&D contract (2006) with the Italian company ENEL and collaborated in projects for filtration of particles in bag filters and electrostatic precipitators in thermoelectric power plants, through an ECSC project (1999-2002). He was also a researcher in a project of the 5th Framework Program (2000-2003) on advanced power generation cycles.



The last line of research he has been developing since 2009 is on the reforming of oxygenated hydrocarbons using supercritical water, such as glycerin coming from biodiesel production. He participated with unique dedication in the National Plan project during the years 2010-2013, supervising three theses (2014, 2015 and 2018).

In addition, since 2007 he has participated in eight R&D contracts related to energy, being responsible in three of them. These projects have covered topics such as fire-tube boiler modeling, electricity generation from biomass gasification in fluidized bed, thermal oil regeneration in solar plants, thermal storage in solar plants, chemical design and control system of the processor of bioethanol in a submarine, bioethanol reforming using solar energy, and design of a hydrogen station from bioethanol reforming.

He has been IP in a Research Project granted by the Junta de Andalucía that started in 2020 and finished in January 2023.

Regarding publications, it has published 55 articles in journals with a high JCR impact factor (mostly Q1), of which 25 are related to the supercritical reform, and other 2 papers in SRJ.

General indicators of quality of scientific production

- Four (4) six-year research ('sexenios', in Spanish), the last one obtained in 2021.
- Six (6) theses supervised.
- Citations: 1947 (Google Academics), 1476 (*Scopus Author ID*: 8642524300), 1314 (*Web of Science*).
- Total number of published papers: 55 (*Web of Science*).
- h-Index: 28 (Google Academics), 25 (*Scopus*), 22 (*Web of Science*).
- Main researcher in two competitive projects and in three contracts art. 68/83 LOU.
- Researcher in seven international competitive projects, three national competitive projects and in fourteen contracts art. 68/83 LOU.

Other merits

- Secretary of the Engineering School (University of Seville) from 05/02/2015 to 29/03/2019.
- Stay as a researcher at CIEMAT (Madrid) from 01/07/1994 to 30/06/1995. Topic: Research project entitled "Desulfurization of flue gas by circulating fluidized bed, phas.1".
- Stay as a researcher at University College Cork (Cork, Ireland), from 26/06/2018 to 03/09/2018. Topic: Research project entitled "Aggregation of particles: modeling of the population balance equations".
- Member of the Editorial Board of two scientific JCR-journals: *Energies* and *Applied Sciences*.
- Reviewer for 49 international journals with 189 verified reviews (publons.com/a/1349246/).
- Supervision of 6 PhD Thesis (5 after 2010, and 1 before).
- Supervision of 6 Master Thesis.
- Supervision of 14 End of Degree Projects.
- Supervision of 28 End of Career Projects.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (from 2016 to 2020; only 10 of 20)

1. Gutiérrez Ortiz FJ, Alonso-Fariñas B, Campanario FJ, Kruse A. **2020**. Life cycle assessment of the Fischer-Tropsch biofuels production by supercritical water reforming of the bio-oil aqueous phase. *Energy* Vol. 210 Núm. 118648 (6.082 (JCR 2019) 'THERMODYNAMICS' Q1: position 3 of 60; 'ENERGY & FUELS' Q1: 20 of 112)
2. Gutiérrez Ortiz FJ. **2020**. Techno-economic assessment of supercritical processes for biofuel production. *J. of Supercritical Fluids* Vol. 160 Núm. 104788 (3.744 (JCR 2019) 'ENGINEERING CHEMICAL' Q2, position 39 of 143)



3. Gutiérrez Ortiz FJ, Kruse A. **2020**. The use of process simulation in supercritical fluids applications. *Reaction Chemistry & Engineering* 5, 424-451.
(3.411 (JCR 2019) 'ENGINEERING CHEMICAL' Q2, position 49 of 143)
4. Gutiérrez Ortiz FJ, Kruse A, Ramos F, Ollero P. **2019**. Integral energy valorization of municipal solid waste reject fraction to biofuels. *Energy Conversion and Management* 180, 1167-1184. (7.181 (JCR 2018) 'ENERGY & FUELS' Q1, position 12 of 103)
5. Gutiérrez Ortiz FJ, Campanario FJ. **2018**. Hydrogen production from supercritical water reforming of acetic acid, acetol, 1-butanol and glucose over Ni-based catalyst. *The Journal of Supercritical Fluids* 138, 259-270.
(3.481 (JCR 2018) 'ENGINEERING CHEMICAL' Q1, position 29 of 138)
6. Gutiérrez Ortiz FJ, Campanario FJ, Ollero P. **2017**. Effect of mixing bio-oil aqueous phase model compounds on hydrogen production in noncatalytic supercritical reforming. *Reaction Chemistry & Engineering* 2, 679-687.
(4.641 (JCR 2017) 'ENGINEERING CHEMICAL' Q1, position 16 of 134)
7. Campanario FJ, Gutiérrez Ortiz FJ. **2017**. Fischer-Tropsch biofuels production from syngas obtained by supercritical water reforming of the bio-oil aqueous phase. *Energy Conversion and Management* 150, 599-613. (6.377 (JCR 2017) 'ENERGY & FUELS' Q1, position 11 of 97)
8. Gutiérrez Ortiz FJ, Campanario FJ, Ollero P. **2016**. Turnover rates for the supercritical water reforming of glycerol on supported Ni and Ru catalysts. *Fuel* 180, 417-423.
(4.601 (JCR 2016) 'ENGINEERING CHEMICAL' Q1, position 13 of 134)
9. Gutiérrez Ortiz F.J., Campanario F.J., Ollero P. **2016**. Supercritical water reforming of model compounds of bio-oil aqueous phase: Acetic acid, acetol, butanol and glucose. *Chemical Engineering Journal* 298 243–258.
(6.216 (JCR 2016) 'ENGINEERING CHEMICAL' Q1, position 6 of 134)
10. Gutiérrez Ortiz F.J., Campanario F.J., Aguilera PG, Ollero P. **2016**. Supercritical water reforming of glycerol: Performance of Ru and Ni catalysts on Al₂O₃ support. *Energy* 96, 561-568.
(4.520 (JCR 2016) 'THERMODYNAMICS' Q1: position 3 of 58; 'ENERGY & FUELS' Q1: 17 of 90)

C.2. Congress

1. Gómez A., Gutiérrez Ortiz F.J., Haro P., de Almeida V., Ollero P, Arena U. Development of a new technology for material and energy valorisation of urban waste through optimal gasification and ash stabilization; 4th International Conference on Renewable Energy Gas Technology, REGATEC 2017, Thuringian Energy and Green Tech Agency; Pacengo (Verona), Italia. 22-23/05/2017.
2. Gutiérrez Ortiz, F.J, Ollero P., Serrera A, Aguilera P.G: Hydrogen production from supercritical water reforming of glycerol. EHEC 2014, European Hydrogen Energy Conference. Sevilla, Spain. 12-14/03/2014
3. Martín M., Gallardo V, Díaz R., Vidal A, Romero M., González-Aguilar J., Ridao M.A., Tapia E., Gutiérrez Ortiz F.J., Vázquez J., Pérez A. Solar hydrogen production by thermochemical processes: bioethanol reforming and thermochemical mixed-ferrite cycle; EMHYTEC 2012 - Euro Mediterranean Hydrogen Technologies Conference; ETRERA-Empowering Tunisian Renewable Energy Research Activities, Hammamet, Túnez, 11-14/09/2012 – 14/09/2012

C.3. Research projects (from 2009)

1. Project reference P18-RT-2521 (Excelence J.A. 2018)

Title: Development of new technological solutions for the valorizaion and energy optimization of organic waste under supercritical conditions.

Main researchers (IP): Fco. J. Gutiérrez Ortiz y Fco J. Jiménez-Espadafor (Univ de Sevilla)

Funding entity: Consejería de Economía y Conocimiento (Junta de Andalucía)

Duration (start date - end date): 01/01/2020 - 31/01/2023

Funds received: 102,268 €



2. Project reference CTM2016-78089-R (State Plan 2016)

Title: Development of a technology for the material and energy valorization of urban waste through simultaneous optimization of gasification and stabilization of ashes.

Main researchers (IP): Fco. J. Gutiérrez Ortiz y A. Gómez Barea (Universidad de Sevilla)

Funding entity: Ministry of Economy and Competitiveness

Duration (start date - end date): 01/01/2017 - 31/12/2019

Funds received: 150,000 €

3. Project reference: ENE2009-13755 (National Plan 2009)

Title: Study of the thermochemical conversion of crude glycerin to synthetic gas by means of steam gasification. Evaluation of synthetic gas applications.

Main researcher (IP) P. Ollero de Castro (Universidad de Sevilla)

Funding entity: Ministry of Science and Technology

Duration (start date - end date): 01/01/2010 - 30/06/2013

Funds received: 136.000 €

C.4. Contracts (Arts. 68/83 LOU), technological or transfer merits (from 2009)

1. Title: Biofuel processing plant for feeding carbonate fuel cell.

Main researcher: Francisco Javier Gutiérrez Ortiz

Funding entity: Abengoa Hidrógeno

Duration (start date - end date): 01/09/2011 - 06/06/2015

Funds received: 336,400 €

2. Title: Conceptual engineering of a processor system for hydrogen production (bioethanol reforming using high temperature thermal solar energy in parabolic disk).

Main researcher: Pedro Ollero de Castro

Funding entity: Abengoa Hidrógeno

Duration (start date - end date): 01-09-2011 - 31-12-2011

Funds received: 22,800 €

3. Title: Support in the chemical design, collaboration in the development of process control strategy and support in bioethanol processing system tests (Submarine SPB-S8)

Main researcher: Pedro Ollero de Castro

Funding entity: Abengoa Hidrógeno (antes Hynergreen)

Duration (start date - end date): 01/03/2009 - 30/04/2010

Funds received: €

4. Title: TES PS10 Thermal Storage Plant

Main researcher: Pedro Ollero de Castro

Funding entity: Abengoa Solar New Technologies

Duration (start date - end date): 01/05/2009 - 01/08/2011

Funds received: 200,000 €

5. Title: Factor analysis and modeling of the degasification process of the Abanilla landfill (Murcia)

Main researcher: Pedro Ollero de Castro

Funding entity: Zeroemissions y Energía Sur de Europa

Duration (start date - end date): 01/07/2009 - 01/08/2011

Funds received: 110,000 €