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Fecha del CVA	
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Part A. PERSONAL INFORMATION

CV date

23/11/2018

First and Family name	Alberto Gómez Barea		
Social Security, Passport, ID number	28909766P	Age	45
Researcher numbers	Researcher ID		
	Orcid code	0000-0003-0172-1574	

A.1. Current position

Name of University/Institution	Universidad de Sevilla		
Department	Chemical and Environmental Engineering Department		
Address and Country	Escuela Técnica Superior de Ingeniería, Camino de los Descubrimientos, s/n, 41092 Sevilla (Spain)		
Phone number	610426060	E-mail	agomezbarea@us.es
Current position	Full Professor (Catedrático de Universidad)	From	Jan 2017
Espec. cód. UNESCO	330300 - Chemical technology and engineering; 330800 - Environmental technology and Engineering; 332107		
Palabras clave	Gasification of biomass and waste, Solar Thermochemical conversion, oxy-combustion, fluidized bed, CFD simulation		

A.2. Education

PhD	University	Year
Chemical and Environmental Technology	Universidad de Sevilla	2006
Long-cycle degree (6-years)	University	Year
Industrial Engineering (Chemical Technology)	Universidad de Sevilla	2000

A.3. JCR articles, h Index, thesis supervised...

JCR articles: 68 (56 Q1 articles)

Total citations: 2046 by 1521 documents

Number of coauthors: 67

h index: 26

**Source: Web of Science, Scopus and Google Scholar (23 November 2018)*

Thesis supervised:

1. Jesús Salinero González (2018). Medida de la temperatura superficial de combustión de carbonizado mediante pirometría con cámara digital para estudiar el efecto de CO₂ en su oxiconversión en reactores de lecho fluido
2. Diego Fuentes Cano (2013). Estudio de la reactividad en fases gas y sobre lecho de carbonizado del alquitrán generado durante la devolatilización de biomásas y residuos. Universidad de Sevilla (Sobresaliente Cum Laude)

3. Susanna Nilsson (2012). Modelado y simulación de un proceso de gasificación en tres etapas para residuos y biomásas European doctoral thesis. Universidad de Sevilla (Sobresaliente Cum Laude)
4. Manuel Campoy (2009) Gasificación de biomasa y residuos en lecho fluidizado: estudios de planta piloto. European doctoral thesis. Universidad de Sevilla (Sobresaliente Cum Laude)

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

Professor Gómez-Barea is Full Professor in Energy, Chemical and Environmental Engineering at University of Seville (US) since 2016 (accredited since 2013). He has lectured Transport Phenomena, Chemical Reactors, and Modelling and Process Simulation at the US for the last 15 years. He has developed an intensive international activity as visiting lecturer and researcher all over the world giving lectures on solid fuel conversion and fluid dynamics of fluidized-beds, participating in doctoral thesis and project evaluation committees. His specific research activity has been focused on thermochemical conversion of biomass and waste in fluidized beds and synthesis of biofuels and bioproducts. More recently, he is involved in new developments for hybridization of biomass and waste with concentrated solar technologies and development of reactors for solar thermochemical conversion and storage. He has participated in more than 50 R&D public funded projects and private contracts with companies for the energy, chemical and industrial sector. He is author of 56 papers in SCI (JCR) journals, chapters in books and more than 70 communications in international Conferences (h-Index Scopus 26). He is part of the Steering Committee in various reputed International conferences such as those of Fluidized Bed Conversion, Fluidized Bed Technology, and Engineering for Waste and Biomass Valorization.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. Fuentes-Cano, D., Salinero, J., Haro, P., Nilsson, S., Gómez-Barea, A. The influence of volatiles to carrier gas ratio on gas and tar yields during fluidized bed pyrolysis tests. *Fuel* **2018**, 226, pp. 81-86. <https://doi.org/10.1016/j.fuel.2018.03.171>
2. Aracil, C., Haro, P., Fuentes-Cano, D., Gómez-Barea, A. Implementation of waste-to-energy options in landfill-dominated countries: Economic evaluation and GHG impact. *Waste Management* **2018**, 76, 443-456. <https://doi.org/10.1016/j.wasman.2018.03.039>
3. Salinero, J., Gómez-Barea, A., Fuentes-Cano, D., Leckner, B. Measurement and theoretical prediction of char temperature oscillation during fluidized bed combustion, *Combustion and Flame* **2018**, 192, 190-204 <https://doi.org/10.1016/j.combustflame.2018.02.005>
4. Salinero, J., Gómez-Barea, A., Fuentes-Cano, D., Leckner, B. The influence of CO₂ gas concentration on the char temperature and conversion during oxy-fuel combustion in a fluidized bed, *Applied Energy* **2018**, 215, 116-130 <https://doi.org/10.1016/j.apenergy.2018.01.038>
5. Fuentes-Cano, D., Parrillo, F., Ruoppolo, G., Gómez-Barea, A., Arena, U. The influence of the char internal structure and composition on heterogeneous conversion of naphthalene. *Fuel Processing Technology* **2018**, 172, 125-132. <https://doi.org/10.1016/j.fuproc.2017.12.015>
6. Wang, W., Bu, C., Gómez-Barea, A., Leckner, B., Zhang, J., Piao, G. O₂/CO₂ and O₂/N₂ combustion of bituminous char particles in a bubbling fluidized bed under simulated combustor conditions. *Chemical Engineering Journal* **2018**, 336, 74-81. <https://doi.org/10.1016/j.cej.2017.11.027>

7. Salinero, J, Gómez-Barea, A, Fuentes-Cano, D, Leckner, B. The effect of using thermocouples on the char particle combustion in a fluidized bed reactor. *Fuel* **2017**, 207, 615-624. <https://doi.org/10.1016/j.fuel.2017.06.085>.
8. Kramb, J, Gómez-Barea, A, DeMartini, N, Doddapaneni, T.R.K.C., Konttinen, J. The effects of calcium and potassium on CO₂ gasification of birch wood in a fluidized bed. *Fuel* **2017**, 196, 398–407. <https://doi.org/10.1016/j.fuel.2017.01.101>
9. Nilsson S, Gómez-Barea A, Fuentes-Cano D, Haro P, Pinna-Hernández G. Gasification of Olive Tree Pruning in Fluidized Bed: Experiments in a Laboratory-Scale Plant and Scale-up to Industrial Operation. *Energy Fuels* **2017**, 31, 542-554. <https://doi.org/10.1021/acs.energyfuels.6b02039>
10. Bu C, Gómez-Barea A, Leckner B, Chen X, Pallarès D, Liu D, Lu P. Oxy-fuel conversion of sub-bituminous coal particles in fluidized bed and pulverized combustors. *Proc. Combustion Institute* **2017**, 36, 3331–3339. <http://dx.doi.org/10.1016/j.proci.2016.08.075>
11. Pandey D, Kwapinska M, Gomez-Barea A, Horvat A, Fryda L, Rabou L, Leahy J, Kwapinski W. Poultry Litter Gasification in a Fluidized Bed Reactor: Effects of Gasifying Agent and Limestone Addition. *Energy Fuels* **2016**, 30, 3085–3096
12. Bu C, Gómez-Barea A, Chen X, Leckner B, Liu D, Pallarès D, Lu P. Effect of CO₂ on oxy-fuel combustion of coal-char particles in a fluidized bed: Modeling and comparison with the conventional mode of combustion. *Applied Energy* **2016**, 177 247–259
13. Salinero J, Gómez-Barea A., Tripiàna M., Leckner B. Measurement of char surface temperature in a fluidized bed combustor using pyrometry with digital camera with digital camera. *Chemical Engineering Journal* **2016**, 288 441-450
14. Fuentes-Cano D, Gómez-Barea A, Nilsson S, Ollero P. Kinetic Modeling of Tar and Light Hydrocarbons during the Thermal Conversion of Biomass. *Energy Fuels*, **2016**, 30, 377–385
15. Bu C, Pallarès D, Chen X, Gómez-Barea A, Liu D, Leckner B, Lu P. Oxy-fuel combustion of a single fuel particle in a fluidized bed: Char combustion characteristics, an experimental study. *Chemical Engineering Journal* **2016**, 287 649-656

C.2. Research projects and grants

INTERNATIONAL (PUBLIC FUNDED) PROJECTS

1. Dissemination, education and standardisation of Phyllis database on biomass fuels and ashes. 6th Frame Programme of EU, ref: SI-0462/2007, 2006–2009.
2. Renewable Fuels for advance power trains (RENEW)
6th Frame Programme of EU, ref: SI-0046/04, 2004–2006
3. Improvement of economics of biomass/waste gasification by higher carbon conversion and advanced ash management.
5th Frame Programme of EU: 2002–2005

NATIONAL (PUBLIC FUNDED) PROJECTS

1. Desarrollo de una Tecnología para la Valorización Material y Energética de Residuos Urbanos Mediante Optimización Simultánea de la Gasificación y Estabilización de las Cenizas. Plan nacional. CTM2016-78089-R. 2016-2019. 181.500 €
2. Oxicombustión y oxigasificación el lecho fluidizado: estudio de la conversión de carbonizado para el diseño y optimización de equipos de captura de segunda generación. Plan Nacional. ENE2012-37999. 2012-2015. 80.000 €. (Principal Researcher)

3. Demostración de una tecnología de gasificación de biomasa basada en un gasificador flexible de tres etapas. (Fletgas 2). Proyecto de Excelencia de la Junta de Andalucía. P12-TEP-1633. 2014-2015. 187.50 €. (Researcher)
4. Desarrollo de una tecnología de gasificación de biomasa basada en un gasificador flexible de tres etapas. Proyecto de Excelencia de la Junta de Andalucía. TEP-03893. 2009-2012. 197.600 € (Researcher)

C.3. Contracts

1. Diseño de un Sistema de reintroducción de carbonizado para un gasificador de lecho fluido burbujeante. Contrato 68/83 **(2018)** (CHAR RECYCLE – BFB) (ES-1793/35/2018). Company: Waste to Energy Advanced Solutions SL. (IP) (3,880 €)
2. Abatimiento de fugas de H₂S. Contrato 68/83 **(2017)** (ABATH₂S) (ES-1704/35/2017). Company: CEPESA. (IP) (2,600 €)
3. Análisis de Tecnologías para la Valorización Energética de RSU (2804/0314). Contrato 68/83 **(2016)** 2016-17. Company: EDIFESA 16.000 €
4. Optimización de la gestión y aprovechamiento de los restos de podas de jardines y parques municipales (ENCIBION) Contrato 68/83 **(2015)** 1335/2015 (Company: Inerco, Aborgase) 80.000 € (IP)
5. Aprovechamiento de biomasa forestal para generación de electricidad distribuida. (ENFORBION) Contrato 68/83 2015 1363/2015 (Company: Inerco, Aborgase) 125.000 € (IP)
6. Estudio de tecnologías de valorización energética de Residuos Urbanos 2 (ETVERU 2). Contrato 68/83 (2015). (1398/2015). Company: TRAGSATEC. 9900 €. (IP)
7. Estudio de tecnologías de valorización energética de Residuos Urbanos (ETVERU) Contrato 68/83 (2014). (1346/2014). Company: TRAGSATEC. 3700 €. (IP)
8. Collaborative agreement between AICIA and CTH for the supporting of research activities on biomass gasification in fluidized bed at CTH. Contrato 68/83 (PI-1133/2013). 2013–2014. Customer: *CHALMERS UNIVERSITY OF TECHNOLOGY*. 46.500 € (IP)
9. Study of technologies for waste plastics gasification for chemicals synthesis CHP applications. Contrato 68/83 (PI-0793/2011) 2010-2012. Company: *Total Petrochemical*. 88.000 €. (IP)

C.4. Patentes

- Patente internacional nº PCT/ES2013/070907 de título “DISPOSITIVO PARA INDUCIR HIPORTERMIA TERAPEUTICA.”, SERVICIO ANDALUZ DE SALUD y UNIVERSIDAD DE SEVILLA, Inventores: Alberto Gómez-Barea /Juan Antonio Nuño Morales

C.5, C.6, C.7

Membership of scientific societies

- Member of Steering Committee of International Fluidized bed Combustion Conference
- Member of Steering Intern. Conference on Engin.for Waste and Biomass Valorisation
- Member of Steering Committee of International Conference on Fluidized Bed technology

Stays in International Universities

- Chalmers University of Technology (Sweden): 2004 (6 months), 2006 (2 months), 2008 (3 weeks), 2012 (1 month), 2013-14 (9 months)
- University of Limerick (Ireland) 2015 (5 weeks).