

CURRICULUM VITAE ABREVIADO

SHORT CV

Part A. Personal Information		DATE	08/10/2018
Surname(s)	Silvia		
Forename	Bolado Rodriguez		
Social Security, Passport, ID number	13924580N		
Sex	F		
Age	50		
	SCOPUS Author ID(*)	22035941900	
	Open Researcher and Contributor ID (ORCID)	0000-0003-0941-3306	

(*) At least one of these is mandatory

A.1. Current position

Post/ Professional Category	Associate Professor		
UNESCO Code	330200; 3303		
Key Words	Biomass, wastes, bioprocesses, adsorption, crystallization, valorisation, pretreatment, mass transfer, phase equilibria, enzymes		
Name of the University/Institution	University of Valladolid		
	Department/Center	Chemical Engineering and Environmental Technology. Industrial Engineering School	
	Full Address	Dr Mergelina s/n 47005 Valladolid	
	Email Address	silvia@iq.uva.es	
	Phone Number	+34983423958	
Start date	02/21/2000		

A.2. Education (title, institution, date)

Year	University	Degree	Title
1990	University of Valladolid	Masters	Title Chemistry Sciences
1995	University of Valladolid	PhD	Title Chemistry Doctorate

A.3. Indicators of Quality in Scientific Production (See the instructions)

a) From the Scopus data (8 October 2018) Documents: 55; 942 total citations by 749 documents
Average number of citations during the last five years: 122 cites per year

From the Google Scholar data (8 October 2018) Documents: 107; 1431 total citations
Average number of citations during the last five years: 180 cites per year

b) Total number of publications in the first quartile (Q1): 31
and first decile (D1): 18

c) Scopus h index: 18; Google Scholar h index: 19

d) PhD Thesis supervised and finished: 6. PhD Thesis under supervision currently: 4

e) External quality research accreditation by the National Agency for Quality Assessment and Accreditation of Spain, ANECA, during 4 six-years periods, from 1992 to 2015.

Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

Associated Professor of the Department of Chemical Engineering and Environmental Technology of the University of Valladolid, Degree in Chemical Sciences (1990) and Doctor by the University of Valladolid (1995), both qualified with Extraordinary Award. She has completed her training with various postdoctoral stays in prestigious centers such as the CNRS in Orleans, the University of Arizona, the University of Bradford or Washington State University. She also maintains a long and continuous collaboration with the University of Antofagasta in Chile, of which she has been a guest professor on several occasions and participated in multiple research projects and shared publications. Since 1991, she has been teaching and researching at the University of Valladolid, with four recognized six-year terms, corresponding to 24 consecutive years (1992-2015). She is the coordinator of the Acknowledged Research Group of the UVA and member of the Consolidated Research Unit of the Castilla y León Board of Environmental Technology and of the Institute of Sustainable Processes (The only Excellent University Research Institute in the region of Castilla y León).

Accredited as university professor since 2014, she has worked in different lines of research, closely related to the industry, such as studies of concentrated salt solutions, crystallization and adsorption processes and physical-chemical treatment of wastewater. During the last years she is responsible for the research line on Residual Biomass Valorization within the Environmental Technology Group, focusing her research on the fractional valorization of residual biomass, working with different pre-treatments, hydrolysis and fermentations to extract and transform the carbohydrate fraction of lignocellulosic waste and algal biomass from wastewater treatment plants to obtain bioenergy and bioproducts. She has participated in 32 public scientific research projects, with international, European, national and regional funding. She has been the Main Investigator in 8 of these research projects with public funding, two of them European and two currently in force. She has also participated in 14 research contracts with companies (Article 83), being responsible for 12 of them. As a result of this research work, she has published 55 articles, 36 of them being in the first tertile (T1) JCR. She is also co-author of a book indexed in ISI and 7 book chapters, 52 communications to Congresses and has given several invited lectures in international forums. Besides, she has developed an extensive teaching research work, participating in 10 teaching innovation projects, two of them European, financed by Erasmus. She was the coordinator of two of them, and the responsible from her University in the two European academic projects. In this field, she has realized an important work of diffusion, mainly in congresses and participating as an expert in different forums.

She has directed 6 Doctoral Theses, all of them with the highest qualification and currently she is director and supervisor of Thesis of 4 PhD students of the Chemical and Environmental Engineering Program of the University of Valladolid. To this work, it should be included the direction of many Final Master's Projects, Final Degree Projects and Research Projects.

She is a member of the European network EUAlgae (ES1408 COST ACTION), of the European group BIOCEN to produce biofuels, and of the BIOPLAT technology platform.

Part C. Relevant accomplishments**C.1. 12 Publications**

1. Saavedra R, Muñoz Torre R, Taboada M.E, Vega M, **Bolado S** 2018. Comparative uptake study of arsenic, boron, copper, manganese and zinc from water by different green microalgae *Bioresource Technology*. 263, pp.49-58.

2. J. Martín Juárez,.;E.Riol Pastor; J.M. Fernández Sevilla; R. Muñoz Torre, P.A. García Encina, **S. Bolado**. 2018. Effect of pretreatments on biogas production from microalgae biomass grown in pig manure treatment plants *Bioresource Technology*. 257, pp.30-38.

3. Ana Lorenzo Hernando; Judit Martín Juárez; **S. Bolado**. 2018. Study of steam explosion pretreatment and preservation methods of commercial cellulose *Carbohydrate Polymers*. 191, pp.234-241.

4. García, D., Posadas, E., Blanco, S., Acien, G., García-Encina, P., **Bolado, S.**, Muñoz, R. 2018. Evaluation of the dynamics of microalgae population structure and process performance during piggery wastewater treatment in algal-bacterial photobioreactors. *Bioresource Technology*. Elsevier. 248, pp.120-126.

5. Garcia D, Posadas E, Grajeda C, Blanco S, Martínez-Páramo S, Acien F.G., García-Encina P.A., **Bolado S.**, Muñoz R (2017). Comparative evaluation of piggery wastewater treatment in algal-bacterial photobioreactors under indoor and outdoor conditions *Bioresource Technology*. Elsevier. 245, pp.283-290.

6. García, D, Alcántara, C, Blanco, S, Pérez, R, **Bolado, S.**, Muñoz, R. Enhanced carbon, nitrogen and phosphorus removal from domestic wastewater in a novel anoxic-aerobic photobioreactor coupled with biogas upgrading. *Chemical Engineering Journal* 313, pp. 424434 (2017).

7. Travaini, R., Barrado, E., **Bolado, S.** Effect of ozonolysis parameters on the inhibitory compound generation and on the production of ethanol by *Pichia stipitis* and acetone-butanol ethanol by *Clostridium* from ozonated and water washed sugarcane bagasse. *Bioresource Technology* 218, pp. 850-858 (2016)

8. Martín Juárez, J., Lorenzo, A., Muñoz, R., Blanco, S., **Bolado, S.** Saccharification of microalgae biomass obtained from wastewater treatment by enzymatic hydrolysis. Effect of alkaline-peroxide pretreatment. *Bioresource Technology* 218, pp. 265-271 (2016)

9. Travaini, R., Barrado, E., **Bolado, S.** Effect of ozonolysis pretreatment parameters on the sugar release, ozone consumption and ethanol production from sugarcane bagasse. *Bioresource Technology* 214, pp. 150-158 (2016)

10. de Cassia Pereira, J., Travaini, R., Paganini Marques, N., **Bolado, S.**, Bocchini Martins, D.A. Saccharification of ozonated sugarcane bagasse using enzymes from *Myceliophthora thermophila* JCP 1-4 for sugars release and ethanol production. *Bioresource Technology* 204, pp. 122-129 (2016)

11. **Bolado, S.**, Toquero, C., Martín-Juárez, J., Travaini, R., García-Encina, P.A. Effect of thermal, acid, alkaline and alkaline-peroxide pretreatments on the biochemical methane potential and kinetics of the anaerobic digestion of wheat straw and sugarcane bagasse. *Bioresource Technology* 201, pp. 182-190 (2016)

12. Travaini, R., Martín-Juárez, J., Lorenzo-Hernando, A., **Bolado, S.** Ozonolysis: An advantageous pretreatment for lignocellulosic biomass revisited. *Bioresource Technology* 199, pp. 2-12 (2016)

C.2. Research Projects and Grants (last ten years)

Excellence Strategic Programme of Institute of Sustainable Processes of University of Valladolid. Junta de Castilla y León. PI: Pedro A. García Encina. From: 09/2018 to 09/2022. 850,000 €. Guarantee researcher.

CTQ2017-84006-C3. Optimization of the production of value-added bio-products and the recovery of water from manure treatment with microalgae. MICINN RETOS 2017. PI: Silvia Bolado, coordinator of the project with University of Almeria. From: 1/2018 to: 12/2020. 266,200 € (total); 127,050 € (UVA partner). Coordinator and Principal Investigator of subproject 1.

VA080G18. Modelling and sequential valorization of microalgae biomass grown in pig manure treatment plants (BIOPURAL). Consejería de Educación Junta de Castilla y León. PI: Silvia Bolado. From: 4/06/2018 to 31/12-2020. 20,000€. Principal Investigator.

New coupled microalgae-bacteria processes for bionversion of CO₂ from biogas into biopolymers and for biomethane production. Fundación Domingo Martínez. PI: Raul Muñoz Torre. From: 01/06/2018 to 31/05/2019. 40,000€. Researcher

High Resolution UHPLC/MS/MS High Resolution and exact mass Orbitrap Q Exactive Focus. INFRARED equipment. Junta de Castilla y León. PI: Pedro A. García Encina. From: 02/2018 to 10/2018. 499,900 €. Researcher

URBIOFIN: Demonstration of an integrated innovative biorefinery for the transformation of Municipal Solid Waste (MSW) into new BioBased products. Horizon 2020 / BBI-JU European Union. PI: Raúl Muñoz; Raquel Lebrero (University of Valladolid). From: 06/2017 To: 05/2021. 1.019.025 € (UVa). Researcher.

VA067U16: Study of micro contaminant removal in biological wastewater treatment systems and its effect on microbial communities' growth. Junta de Castilla y León (Regional Government). PI: Pedro García Encina (University of Valladolid) From 03/2016 To 07/2018. 120000€. Researcher.

RTA2013-00056-C03-02. Nutrient recovery from agroindustrial effluents via microalgal biomass growth and valorization . INIA-MINECO (Spanish Government). PI: Silvia Bolado (University of Valladolid). From: 10/2014 To 12/2017. 86.754€. Principal Investigator.

VA094U14. Valorization of agrofood wastes via bioenergy and bioproduct in microalgae processes. Junta de Castilla y León (Regional Government). PI: Silvia Bolado (University of Valladolid). From: 01/2015 To 09/2017. 28.865€. Principal Investigator.

CTQ2008-0425/PPQ. Valorization of residual glycerol from the biodiesel production process by chemical and biochemical production of diols. MICINN (Spanish Government). PI: Gerardo González Benito (University of Valladolid). From: 01/2009 To 03/2012. 127.050€. Researcher.

CTQ2006-15217. Optimization of the pretreatment and enzymatic hydrolysis stages in the bioethanol production process from lignocellulosic raw material. MEC (Spanish Government). PI: Silvia Bolado (University of Valladolid). From: 01/2006 To: 03/2010. 72.600€. Principal Investigator.

C.3. Contracts (last ten years)

Characterization of celluloses for process optimization. MAXAMCORP HOLDING S.L. PI: Silvia Bolado (University of Valladolid). From: 09/2017 to 03/2018. 8.039 €. Principal Investigator.

Characterization and pretreatment of celluloses. MAXAMCORP HOLDING S.L. PI: Silvia Bolado (University of Valladolid). From: 05/2015 to 09/2015. 27.800 €. Principal Investigator.

Prototype of a system for self-generation of energy in zero-energy buildings from anaerobic digestion of organic solid waste. 1 A Consultores. PI: Pedro A. García & Silvia Bolado (University of Valladolid). From: 05/2014 To:12/2014. 2.400€. Principal Investigator.

Production of biogas from agricultural and livestock wastes. gricola Optimization of semibatch pilot plant. 1 A Consultores. PI: Silvia Bolado & Pedro A. García (University of Valladolid). From: 9/2012 To 02/2013. 10.000€. Principal Investigator.

A study of the biogas generation potential from Cereal straw in a semi-continuous pilot plant. 1 A Consultores. PI: Pedro A. García & Silvia Bolado (University of Valladolid). From: 06/2011 To: 12/2011. 10.000€. Principal Investigator.

Valorization of byproducts of biofuels production processes for animal feed. UVESA. PI: Silvia Bolado & M^a Teresa García (University of Valladolid). From: 01/2010 To: 03/2012. 57.159€. Principal Investigator.

Recovery of thiocyanates from industrial wastewater. Arcelor- Mittal. PI: Silvia Bolado & Ángel Cartón (University of Valladolid). From: 01/2010 To: 12/2010. 25.594€. Principal Investigator.

Others

Research stays in CNRS (Orleans, France), University of Bradford (UK), University of Arizona (USA), Washington State University (USA), Tamk University (Finland), Universidad de Antofagasta (Chile), Ostfalia University (Germany), University of Bielsko-Biala (Poland), Silesian University of Technology (Poland), DTU (Denmark).

Academic Project: 585761-EPP-1-2017-1-FI-EPPKA2-CBHE-JPP. Enhancing Competences of Sustainable Waste Management in Russian and Kazakh HEIs – EduEnvi. Erasmus K+: KA2 – Cooperation for innovation and the exchange of good practices – Capacity Building in the field of Higher Education. PI: Ella Kalio (Tampere University). From: 01/2018 To: 10/2020. 998.896 €. Responsible of the team from the University of Valladolid.

Academic Project: Strategies for bioenergy and biofuel production –Life cycles, assessment and evaluation. UE Erasmus Lifelong Learning Programme. Intensive Programme. PI: Thorsten Ahrens. Ostfalia University. From: 10/2009 To: 09/2012. 89.730 €. Responsible of the team from the University of Valladolid.

Member of the Editorial Board of Bioresource Technology (Elsevier)

Member of the European COST Action EUAlgae (ES1408 COST ACTION)

Member of the Spanish Technological Platform of Biomass, BIOPLAT, CDTI

Member of the European group BIOCEN for research in Biofuels production

Evaluator of research projects of the Program: Apoio a Projetos de Pesquisa - CHAMADA PUBLICA MCTI/CNPQ/CAPES/FAPS (Brazil)

Evaluator of research projects for the Spanish and for the Regional Governments.

Extraordinary Award of Degree in Chemistry. University of Valladolid

Extraordinary Award of PhD in Chemistry. University of Valladolid.