

CV Date	15/05/2023
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Part A. PERSONAL INFORMATION

First Name	Rebeca		
Family Name	López Serna		
Sex	Female	Date of Birth	
ID number Social Security, Passport			
URL Web			
Email Address	rebeca.lopez@uva.es		
Open Researcher and Contributor ID (ORCID)	0000-0003-3927-057X		

A.1. Current position

Job Title	Assistant professor		
Starting date	2020		
Institution	University of Valladolid (UVa)		
Department / Centre			
Country	Spain	Phone Number	
Keywords	Mass spectrometry; Gas chromatography (fid, ecd, ms, etc); Liquid chromatography (uv, luminiscence, ms, electrochemical, etc); Industrial chemistry		

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2019 - 2020	Senior Postdoctoral scholar / Institute of Sustainable Processes (ISP) / Spain
2017 - 2019	Postdoctoral scholar Juan de la Cierva Incorporación (JdCI) / University of Valladolid (UVa) / Spain
2018 - 2018	Visiting researcher / Swedish University of Agricultural Sciences (SLU) (Sweden) / Sweden

A.3. Education

Degree/Master/PhD	University / Country	Year
Environmental Analytical Chemistry	University of Barcelona (UB) / Spain	2013

Part B. CV SUMMARY

I graduated in Chemistry at the University of Valladolid (UVa), Spain, in 2004. Then, I worked in I+D+i projects in companies such as Agrotechnology and Food Innovation (**The Netherlands**), Repsol YPF and GlaxoSmithKline, among others.

In 2008, I obtained a FPI grant (4 years) by the Spanish Department of Science and Education to pursue my PhD in Environmental Chemistry at the Institute of Environmental Assessment and Water Research (IDAEA), in Barcelona (Spain), belonging to the Spanish National Research Council (**CSIC**), under the supervision of Dr Damià Barceló and Dr Mira Petrovic. In 2012, I worked as a Visiting Researcher at the University of Bath (**UK**) for four months.

From 2013 to 2015 I researched as a Postdoctoral Scholar at the Department of Environmental Sciences, at the **University of California Riverside (UCR), in the United States (USA)**.

Back in Spain, I successfully competed in the National Program **Juan de la Cierva-Incorporation**, through which I became part of the Department of Chemical Engineering and Environmental Technology (IQTMA), at UVa. There, I started a new research section within the department based on the development and application of analytical tools for the determination of compounds of emerging concern (CECs) in environmental matrices, which in 2017 was integrated and consolidated in the **Institute of Sustainable Processes (ISP) of UVa**. In 2018, I was a Visiting Researcher at the Swedish University of Agricultural Sciences (SLU), in **Sweden**,

for three months. In 2019, I was granted with one of the 10 postdoctoral positions as Senior Researcher at UVa.

Nowadays, I am an **Assistant Professor** at the Department of Analytical Chemistry, while I continue leading the CECs group at the ISP-UVa. I have 34 publications, including 31 JCR articles (+2 under revision), 80% of them in the Q1 rank, with a total of 1681 cites, corresponding to a H-index of 15.

General quality indicators of scientific research (JCR)

- **Total citations: 1698**
- **Citations in 2022: 230**
- **Average (Citations / Year): 140**
- **Average (Citations / Publication): 76**

- Publications in the first decile (D1): 9
- Publications in the first quartile (Q1): 24

- **H index: 15 (Scopus)**
- Total publications: 42 (10 **as corresponding author**)
- JCR articles: 31 (**6 as corresponding author**)
- Books: 1 (**as corresponding author**)
- Book chapters: 3

ANECA certifications

- **Recognized Six-Year Research Segment 2008 - 2013**
- **I3 certification**
- **Associated professor**
- Assistant professor
- Private university professor

Thesis supervised in the last 10 years

- **PhD:** 2 (Spain) + 1 (**Kazakhstan**)
- **MSc:** 7 (Spain) + 1 (**USA**)
- **BS:** 8 (Spain) + 1 (**Norway**)

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 Scientific paper.** Daniel Gutiérrez-Martín; Rubén Gil-Solsona; Maarten W. Saaltink; Valentí Rodellas; Rebeca López-Serna; Albert Folch; Jesús Carrera; Pablo Gago-Ferrero. 2023. Chemicals of Emerging Concern in Coastal Aquifers: Assessment Along the Groundwater-Seawater Continuum. *Journal of Hazardous Materials*. 448-130876.
- 2 Scientific paper.** Miguel Ángel de la Serna Calleja; Silvia Bolado; Juan José Jiménez; Rebeca López-Serna. 2023. Performance critical comparison of offline SPE, online SPE, and direct injection for the determination of CECs in complex liquid environmental matrices. *Microchemical Journal*. 187.
- 3 Scientific paper.** Vassalle, Lucas; López-Serna, Rebeca; Rueda-Hernández, Estel; Díez-Montero, Rubén; Ortiz-Ruiz, Antonio; García-Galán, M. Jesús. 2023. Removal of antibiotics by microalgae treatment systems at full-scale. *Water Research*.

- 4 **Scientific paper.** López-Serna, Rebeca; Belén Franco; Silvia Bolado; Juan José Jiménez. 2023. Removal of concern emerging contaminants from pig manure by an outdoor photobioreactor with microalgae. Concentrations in microalgae and manure. *Science of the Total Environment*.
- 5 **Scientific paper.** Daniel Gutiérrez-Martín; Montse Marquès; Albert Pons-Escoda; et al; Rubén Gil-Solsona. 2023. Tumoral and normal brain tissue extraction protocol for wide-scope screening in chemical exposomics. *MethodsX*. 10-102069.
- 6 **Scientific paper.** Pérez-Lemus, Nereida; López-Serna, Rebeca; Pérez-Elvira, Sara-Isabel; Barrado, Enrique. 2022. Analysis of 60 pharmaceuticals and personal care products in sewage sludge by ultra-high performance liquid chromatography and tandem mass spectroscopy. *Microchemical Journal*. 175-107148. SCOPUS (3)
- 7 **Scientific paper.** Portela-Monge, Cristina; Bolado, Silvia; López-Serna, Rebeca; Jiménez, Juan J. 2022. Determination of contaminants of emerging concern in raw pig manure as a whole: difference with the analysis of solid and liquid phases separately. *Environmental Science: Processes and Impacts*. 24.
- 8 **Scientific paper.** López-Serna, Rebeca; Bolado, Silvia; Irusta, Rubén; Jiménez, Juan J. 2022. Determination of veterinary drugs in microalgae biomass from photobioreactors fed with piggery wastewater. *Chemosphere*. 287-132076.
- 9 **Scientific paper.** Mónica Salamanca; Rebeca López-Serna; Laura Palacio; Antonio Hernández; Pedro Prádanos; Mar Peña. 2022. Ecological Risk Evaluation and Removal of Emerging Pollutants in Urban Wastewater by a Hollow Fiber Forward Osmosis Membrane. *Membranes*. 12(3)-293. SCOPUS (1)
- 10 **Scientific paper.** Ruas, Grazielle; López-Serna, Rebeca; Scarcelli, Priscila Guenka; Serejo, Mayara Leite; Boncz, Marc Árpád; Muñoz, Raúl. 2022. Influence of the hydraulic retention time on the removal of emerging contaminants in an anoxic-aerobic algal-bacterial photobioreactor coupled with anaerobic digestion. *Science of the Total Environment*. 827-154262.
- 11 **Scientific paper.** Johanna Zambrano; Pedro Antonio García-Encina; Rebeca López-Serna; Juan José Jiménez; Rubén Irusta. 2022. Photolytic and photocatalytic removal of a mixture of four veterinary antibiotics. *Journal of Water Process Engineering*. 102841. SCOPUS (3)
- 12 **Scientific paper.** Argüeso-Mata, Manuel; Bolado, Silvia; Jiménez, Juan J; López-Serna, Rebeca. 2021. Determination of antibiotics and other veterinary drugs in the solid phase of pig manure. *Chemosphere*. 275-130039. SCOPUS (9)
- 13 **Scientific paper.** Scarcelli, Priscila Guenka; Ruas, Grazielle; López-Serna, Rebeca; Serejo, Mayara Leite; Saúl; Boncz, Marc Árpád; Muñoz, Raúl. 2021. Integration of algae-based sewage treatment with anaerobic digestion of the bacterial-algal biomass and biogas upgrading. *Bioresource Technology*. 340-125552. SCOPUS (9)
- 14 **Scientific paper.** Mónica Salamanca; Rebeca López-Serna; Laura Palacio; Antonio Hernández; Pedro Prádanos; Mar Peña. 2021. Study of the rejection of contaminants of emerging concern by a biomimetic aquaporin hollow fiber forward osmosis membrane. *Journal of Water Process Engineering*. 40-101914. SCOPUS (13)
- 15 **Scientific paper.** Pérez-Lemus, Nereida; López-Serna, Rebeca; Pérez-Elvira, Sara-Isabel; Barrado, Enrique. 2020. Sample pre-treatment and analytical methodology for the simultaneous determination of pharmaceuticals and personal care products in sewage sludge. *Chemosphere*. 258-127273. SCOPUS (14)
- 16 **Scientific paper.** López-Serna, Rebeca; García, Dimas; Bolado, Silvia; et al; Muñoz, Raúl. 2019. Photobioreactors based on Microalgae-Bacteria and Purple Phototrophic Bacteria Consortia: A promising technology to reduce the load of veterinary drugs from piggery wastewater. *Science of the Total Environment*. 692, pp.259-266. SCOPUS (32)
- 17 **Scientific paper.** López-Serna, Rebeca; Posadas, Esther; García-Encina, Pedro Antonio; Muñoz, Raúl. 2019. Removal of contaminants of emerging concern from urban wastewater in novel algal-bacterial photobioreactors. *Science of the Total Environment*. 662, pp.32-40. SCOPUS (51)

- 18 Scientific paper.** López-Serna, Rebeca; Marín-de-Jesús, David; Irusta-Mata, Rubén; García-Encina, Pedro Antonio; Lebrero, Raquel; Fdez-Polanco, María; Muñoz, Raúl. 2018. Multiresidue analytical method for pharmaceuticals and personal care products in sewage and sewage sludge by online direct immersion SPME on-fiber derivatization – GCMS. *Talanta*. 186, pp.506-512. SCOPUS (25)
- 19 Review.** Syrgabek, Yerkanat; Alimzhanova, Mereke; García-Encina, Pedro A.; Jiménez, Juan José; López-Serna, Rebeca. 2023. Greenness evaluation of sample preparation methods by GAPI for the determination of pesticides in grape: A review. *Trends in Environmental Analytical Chemistry*.
- 20 Review.** Pérez-Lemus, Nereida; López-Serna, Rebeca; Pérez-Elvira, Sara-Isabel; Barrado, Enrique. 2019. Analytical methodologies used for the determination of pharmaceuticals and personal care products (PPCPs) in sewage sludge: A critical Review. *Analytica Chimica Acta*. 1083, pp.19-40. SCOPUS (72)

C.3. Research projects and contracts

- 1 Project.** CPP2021-008639, Industrial Online Digital Twin with Anomaly Detection, Performance, Quality and Energy Optimization and Prescriptive Analytics. Spanish Ministry of Science and Innovation. (Institute of Sustainable Processes (ISP)). 01/10/2022-30/09/2025. 587.112 €. Team member.
- 2 Project.** PID2020-113544RB-I00, PROPHACTION - Protein recovery and PHA production from biomass generated in WWTPs. Spanish Ministry of Science and Innovation. (Institute of Sustainable Processes (ISP)). 01/09/2021-31/08/2024. 148.700 €. Team member.
- 3 Project.** VA266P20, Seguimiento del nuevo virus SARS-CoV-2 en EDARs de Castilla y León y desarrollo de una plataforma on-line de alerta temprana de la infección basada en datos de aguas residuales. Regional Government of Castilla y Leon co-funded by FEDER. (Institute of Sustainable Processes (ISP)). 01/01/2021-31/12/2023. 264.000 €. Team member.
- 4 Project.** UVA03, Assessment of the environmental behavior of emerging contaminants during wastewater and solid waste treatment and valorization processes. Regional Government of Castilla y Leon co-funded by FEDER. (Chemical Engineering and Environmental Technology - University of Valladolid (UVa)). 01/02/2018-31/12/2022. 499.900 €. Team member.
- 5 Project.** CLU-2017-09, Research activities in the Institute of Sustainable Processes (ISP). Regional Government of Castilla y Leon co-funded by FEDER. (Institute of Sustainable Processes (ISP)). 14/09/2018-31/12/2021. 850.000 €. Team member.
- 6 Project.** VA080G18, BIOPURAL - Modelización y valorización secuencial de biomasa algal crecida en plantas de tratamiento de purines. Regional Government of Castilla y Leon. (Chemical Engineering and Environmental Technology - University of Valladolid (UVa)). 01/06/2018-31/12/2020. 12.000 €. Team member.
- 7 Project.** CTQ2017-84006-C3-1-R, BIOFRACTAL - Caracterización y valorización fraccionada de biomasa algal crecida en plantas de tratamiento de purines. Spanish Ministry of Economy, Industry and Competitiveness (MICINN). (Chemical Engineering and Environmental Technology - University of Valladolid (UVa)). 01/01/2018-31/12/2020. 115.000 €. Team member.
- 8 Contract.** Research project for the destruction of narcotic drugs TECYSA. (Institute of Sustainable Processes (ISP)). 05/10/2021-05/09/2022. 5.714 €.
- 9 Contract.** Optimization of photosynthetic biological processes for urban wastewater reuse Elecnor S.A.. (Institute of Sustainable Processes (ISP)). 01/09/2020-01/09/2021. 40.638 €.