

CURRICULUM VITAE

Fecha del CVA	21/07/2023
----------------------	------------



Part A. Personal Information

Name	Juan Pedro		
Surname	Bolívar Raya		
Gender (*)	Male	Fecha de nacimiento (dd/mm/yyyy)	26/02/1959
ID Number			
Email	bolivar@uhu.es	URL:	http://www.uhu.es/rensma/presentacion-lcwr/
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-9258-6341		

* datos obligatorios

A.1. Current position

Position	Professor		
Start date	24/4/2004		
Organism/Institution	University of Huelva		
Department/Center	Integrated Sciences / Center for Natural Resources, Health and Environment (RENSMA)		
Country	Spain	Teléfono	+34-959219793
Keywords	Environmental impact and remediation, Hydrochemistry, Natural Radiation, Environmental Radioactivity, Waste Valorization, Waste Characterization.		

A.2. Previous position

Period	Position / Institution / Country
1/10/1983 – 31/12/1989	High School teacher
1/1/1990 – 1/3/1998	Associate teacher at University of Huelva
1/3/1998– 24/4/2004	Titular Teacher at University of Huelva

A.3. Academic formation

Degree/Master/PhD	University / Country	Year
Licensed in Physics	University of Seville / Spain	1982
PhD in Physics	University of Seville / Spain	1995

Parte B. RESUMEN DEL CV

Quality indexes (WOS): Total number of published articles: 192; Total number of published articles in Q1: 78; Citations: 3717; H-index: 34; Total number of PhD Thesis supervised: 19. Number of six-year evaluations: 6 (5 research + 1 transference); Competitive Projects: 36; projects with companies/institutions: 59.

My scientific research has been developed in three areas: a) Environmental radioactivity; b) Characterization and Valorization of NORM Wastes; c) Atmospheric pollution (including noise).

The first main contributions have been made in gamma spectrometry with Ge detectors by developing a general procedure for efficiency calibration including self-sorption corrections by matrix composition and bulk density, obtaining a general function in cylindrical counting geometry. Secondly, I have developed novelty studies in NORM industries, specially they devoted to the production of both fertilizers and TiO₂ pigment, having contributed to new Spanish regulations in NORM for the National Safety Council (CSN).

I consider that is especially relevant my collaborations con the chemical industry, being around sixty R&D projects and contracts, developing projects devoted to radiological evaluation of NORM activities (fertilizers, TiO₂ industry, Rn in building materials, etc.). These projects have obtained the chemical behavior of many natural radionuclides in extreme conditions. To point out relevant have been the studies developed on the scales formed along the industrial chemical processes, material very enriched in natural radionuclides (up to 6 orders of magnitude higher than environmental materials), which have to be managed as radioactive waste and stored in special landfills.

Finally, I have always considered that one of the main functions of university teaching and research staff is the supervision of doctoral theses (teaching and research must be joined), as well as master's and degree final projects. For this reason, throughout my 33-year university career I have supervised 19 doctoral theses and around 60-70 master's/degree final projects.

Parte C. Relevant accomplishments

C.1. Publications (non-exhaustive).

1. Barba-Lobo, A, Gutierrez-Alvarez, San Miguel, EG, Bolivar, JP. A methodology to determine ²¹²Pb, ²¹²Bi, ²¹⁴Pb and ²¹⁴Bi in atmospheric aerosols; Application to precisely obtain aerosol residence times and Rn-daughters' equilibrium factors. J. of Hazardous Materials 445, 130521 (2023). *Corresponding author: A. Barba-Lobo; Position: 4/4*
2. Guerrero, J.L., Suarez-Vaz, N., Paz-Gómez, D.C., Pérez-Moreno, S.M., Bolivar, J.P. Spatiotemporal evolution of U and Th isotopes in a mine effluent highly polluted by Acid Mine Drainage (AMD). J. of Hazardous Materials 447, 130782 (2023). *Corresponding author: J.L. Guerrero; Position: 5/5*
3. Gutiérrez-Álvarez, I., Aroba, J., Martín, J.E., Adame, J.A., Bolívar, J.P. Use of a fuzzy qualitative model to reanalyze radon relationship with atmospheric variables in a coastal area near a NORM repository. Environmental Technology and Innovation 28, 102619 (2022). *Corresponding author: I. Gutiérrez-Álvarez; Position: 5/5*
4. Barba-Lobo, A., Bolívar, J.P. A practical and general methodology for efficiency calibration of coaxial Ge detectors. Measurement: Journal of the International Measurement 197, 111295 (2022). *Corresponding author: A. Barba-Lobo; Position: 2/2*
5. Barba-Lobo, A., Mosqueda, F., Bolívar, J.P. An upgraded lab-based method to determine natural γ -ray emitters in NORM samples by using Ge detectors. Measurement: Journal of the International Measurement Confederation 186, 110153 (2021). *Corresponding author: A. Barba-Lobo; Position: 3/3*
6. Barba-Lobo, A., Mosqueda, F., Bolívar, J.P. A general function for determining mass attenuation coefficients to correct self-absorption effects in samples measured by gamma spectrometry. Radiation Physics and Chemistry 179,109247 (2021). *Corresponding author: A. Barba-Lobo; Position: 3/3*
7. Barba-Lobo, A., San Miguel, E.G., Lozano, R.L., Bolívar, J.P. A general methodology to determine natural radionuclides by well-type HPGe detectors. Measurement: Journal of the

International Measurement Confederation 181, 109561 (2021). *Corresponding author: A. Barba-Lobo; Position: 4/4*

8. Guerrero J.L., Pérez-Moreno, S.M., Gutiérrez-Álvarez, I., Gázquez, M.J., Bolívar, J.P. Behaviour of heavy metals and natural radionuclides in the mixing of phosphogypsum leachates with seawater. *Environmental Pollution* 268, 115843 (2021). *Corresponding author: J.L. Guerrero; Position: 5/5*

9. Guerrero, J.L., Pérez-Moreno, S.M., Mosqueda, F., Gázquez, M.J., Bolívar, J.P. Radiological and physico-chemical characterization of materials from phosphoric acid production plant to assess the workers radiological risks. *Chemosphere* 253,126682 (2020). *Corresponding author: J.L. Guerrero; Position: 5/5*

10. Pérez-Moreno, S.M., Guerrero, J.L., Mosqueda, F., Gázquez, M.J., Bolívar, J.P. Hydrochemical behaviour of long-lived natural radionuclides in Spanish groundwaters. *Catena* 191,104558 (2020). *Corresponding author: S.M. Pérez-Moreno; Position: 5/5*

C.2. Conferences (*only last two relevant*)

1. Natural Radionuclides mobility into synthetic flowbacks from the oil & gas industry. 2nd ENA WORKSHOP, Vienna (Austria), 20-22 October 2020. Oral presentation.

2. Radioactive and radiological characterization of Spanish commercial bottled drinking water. 5th International Conference on Environmental Radioactivity. Praga (República Checa). 08/09/2019 - 13/09/2019. Oral presentation.

C.3. Research projects and grants

1. **Proyecto:** Diagnóstico y propuestas para la recuperación ambiental de áreas afectadas por actividades industriales y mineras; implicaciones para la ría de Huelva (RESTOREHU) **Código:** TED2021-130361B-I00. **Programa financiador:** Convocatoria de proyectos de I+D+i de Transición Ecológica y Digital 2021. **Entidad financiadora:** Ministerio de Ciencia e Innovación. Agencia Estatal de Investigación. **Responsable:** JUAN PEDRO BOLIVAR RAYA. **Inicio:** 01/01/2023, **Fin:** 31/12/2024. **Cuantía (EUROS):** 189.750,00.

2. **Proyecto:** Desarrollo y optimización de un proceso para eliminación de radionucleidos naturales en lixiviados de fosfoyeso. **Código:** PID2020-116461RB-C21. **Programa financiador:** PN de I+D+i (Retos). **Entidad financiadora:** Ministerio de Ciencia e Innovación. **IP:** JUAN PEDRO BOLIVAR RAYA. **Inicio:** 01/09/2021. **Fin:** 31/12/2023. **Cuantía (EUROS):** 133.100,00.

3. **Proyecto:** Tratamiento de los lixiviados ácidos de las balsas de fosfoyeso de Huelva y modelización del transporte de los radionucleidos emitidos. **Código:** PY20_00096. **Programa financiador:** PLAN ANDALUZ DE INVESTIGACIÓN, DESARROLLO E INNOVACIÓN (PAIDI 2020). **Entidad financiadora:** Junta de Andalucía. **IP:** JUAN PEDRO BOLIVAR RAYA. **Inicio:** 05/10/2021. **fin:** 30/06/2023. **Cuantía (EUROS):** 96.500,00.

4. **Proyecto:** Valorización de Residuos Inorgánicos Enriquecidos en Radiactividad Natural Para Materiales de Construcción Sostenibles (Enfrima). **Código:** UHU-202020. **Programa financiador:** Programa Operativo FEDER Andalucía 2014-2020. **Entidad financiadora:** Junta de Andalucía. **IP:** JUAN PEDRO BOLIVAR RAYA. **inicio:** 01/01/2022. **Fin:** 30/06/2023. **Cuantía (EUROS):** 38.306,21.

5. **Proyecto:** Exhalación de Radón en materiales de construcción; Impacto radiológico y medidas correctoras (EXRADÓN). **Código:** SUBV-4/2021. **Programa financiador:**

Convocatoria de proyectos de I+D+i relacionados con las funciones del Organismo.
Entidad financiadora: Consejo de Seguridad Nuclear. **IP:** JUAN PEDRO BOLIVAR RAYA. **Inicio:** 1/1/2022. **Fin:** 31/12/2024. **Cuantía (EUROS):** 93.280,00.

C.4. Participation in technology/knowledge transfer activities and exploitation of results.

C.4.1. Contracts (last five)

1. Title: Radiological control of the industrial waste repository from NERVA (Huelva). **Ref.:** 83-2021. **Entity:** Diseño de Soluciones Medioambientales, S.L. **IP:** Bolívar Raya, Juan Pedro. 01/01/2022 **top** 31/12/2023. **Grands (EUROS):** 16093,00

2. Title: CARACTERIZACIÓN DE ESCORIAS Y DETERMINACIÓN DE SU SÍLICE LIBRE. **Ref.:** 7-2021. **Entity:** Atlantic Copper SLU (Huelva). **IP:** Bolívar Raya, Juan Pedro. 1/2/2021 to 31/7/2021. **Grands (EUROS):** 31420,07

3. Title: Arsenic removal of the weak acid effluent coming from the gypsum plant of a copper hydrometallurgical complex. **Ref.:** 87-2019. **Entity:** Atlantic Copper SLU (Huelva). **IP:** Bolívar Raya, Juan Pedro. 1/12/2019 to 30/9/2020. **Grands (EUROS):** 34091,75

4. Title: Characterization of the materials coming from the bismuth/antimony pilot plant. **Ref.:** 36-2018. **Entity:** Atlantic Copper SLU. **IP:** Juan Pedro Bolivar Raya. 3/9/2018 to 31/12/2019. **Grands:** 29360,65 euros

5. Title: Recovery of Cu and As removing in the waste generated during the electrolytic cleaning. **Ref.:** 23-2018. **Entity:** Atlantic Copper SLU. **IP:** Juan Pedro Bolivar Raya. 3/9/2018, **to:** 31/12/2019. **Grands:** 29360,65 euros

C.4.2. Transfer merits

Patent: Procedure for phosphogypsum stabilization for reducing its radioactive emissions. **Code:** P-201130409; PCT/ES2012/070178. **Date:** 22/03/11. **Owner:** CSIC, Universidad de Huelva, CIEMAT. **Type:** National and international. **Authors:** Bolívar, JP; Gázquez-González, MJ; García-Díaz, I.; Alguacil, F.; Lopez F.

Spin off 1: Environmental Technology Solutions S.L.

Spin off 2: NORM Technology Consulting S.L., where I am scientific advisor in issues related with natural radioactivity and dispersion of pollutants in aquatic and atmospheric media.