



Part A. PERSONAL INFORMATION		CV date	30-06-2021		
First and Family name	Juan Pedro Bolívar Raya				
ID number (NIF)	30451377K	Age 62			
	WoS Researcher ID (*)	F-1582-2017			
Researcher codes	SCOPUS Author ID (*)	7006742172			
	ORCID (**)	http://orcid.org/0000-0001-9258-6341			
(*) At least and of these is mandatany (**) Mandatany					

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A.1. Current position

University/Institution	University of Huelva				
Department	Integrated Sciencies				
Address and Country	Facultad de CC. Experimentales. Campus de El Carmen				
Phone number	+34669754251	E-mail	bolivar@	<u>uhu.es</u>	
Current position	P	rofessor		From	24/4/2004
Key words	Radioactivity, phosphogypsum, NORM, waste valorization, environmental remediation, Hydrochemistry				

A.2. Education

PhD	University	Year
Physics (Environmental radioactivity)	University of Seville	1995

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

Data collected from Web of Science

- Number of six years recognized: 5 (4 + 1 Transference)
- Number of Doctoral Thesis Supervised: 16
- Number of papers (Total): 170
- Total times cited: 2411
- Total publications in Q1: 82
- H-index: 28
- Projects from competitive calls: 16
- Projects/agreements with institutions/companies: 50
- Number of books: 8
- Number of Chapter books: 23
- Number of congress contributions: about 200

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

1. Environmental radioactivity and applications

The objective has been their application for studying the behavior of radionuclides in the environment, as well as their applications in different fields: a) dating of recent sediments (²¹⁰Pb, ¹³⁷Cs, ²³⁰Th/²³²Th, ^{239,240}Pu); b) ²²²Rn for origin air masses and radioactivity of atmospheric aerosols (Rn short life daughters, ²¹⁰Pb, ²¹⁰Po, ⁷Be); c) Radiological protection and environmental radiological impact studies in NORM industries (Mining, fertilizers, TiO2, copper smelting, etc.), natural radionuclides in industrial residues, sludge, etc., and studies of occupational radiological evaluation of workers in NORM industries. We have also worked in studies related to radiological polluted soils developing studies for their clean-up by applying the MARSSIM methodology. Nowadays we are working on the fractionation of natural radionuclides produced under very acidic conditions as the acid mine drainage (AMD), trying to find the basic mechanisms involved in these anomalous fractionations. In addition, we are also studying the leachates released by phosphogypsum piles into the estuary of Huelva.

2. Characterization and valorization of inorganic industrial waste containing natural radiation (NORM waste).

Various studies have been carried out for the last ten years devoted on the physical, chemical, mineralogical and radioactive characterization of inorganic industrial waste and soils contaminated



with significant contents of natural radionuclides and heavy metals. The radiometric techniques, and other physicochemical characterization techniques have been used (FRX, DRX, SEM-EDX, ICP-MS/OES, laser diffraction granulometry, among others). Various projects have been carried out on the valorization of artificial gypsums and inorganic sludges in the production of cements, ceramic materials, fire insulators, and road signs.

3. Atmospheric pollution

In 1999 my research group signs an agreement with the National Institute of Aerospatiale Technique (INTA) to develop PhD co-financed scholarships to develop the research line on tropospheric ozone and other atmospheric gases as NOx, SO₂, etc., analyzing the behavior of O3 and its precursors (VOCs, NOx) and atmospheric variables in western Andalusia. In this line we have applied and validated models for weather prediction as the WRF code ("Weather Research Forecasting").

Part C. RELEVANT MERITS

C.1. Publications (5 JCR recent papers selected on radon)

Gutiérrez-Álvarez, I.; Guerrero, J.L.; Martín, J.E.; Adame, J.; Vargas, A., Bolívar, J.P. 2021. Application of hierarchical clustering and FLEXPART-WRF to detect the influence of a NORM repository on the radon concentration in its nearby area. *(Under second revision)*

Gutiérrez-Álvarez I.; Martín, J.E.; Adame, J.A.; Grossi, C.; Vargas, A.; Bolívar, J.P.; 2020 Applicability of the closed-circuit accumulation chamber technique to measure radon surface exhalation rate. Radiation Measurements. Volume 133, 2020, 106284, 10.1016/j.radmeas.2020.106284.

Gutiérrez-Álvarez I.; Martín, J.E.; Adame, J.A.; Bolívar, J.P.; 2020 Influence of the accumulation chamber insertion depth to measure surface radon exhalation rates. Journal of Hazardous Materials. Volume 393, 2020, 122344, 10.1016/j.jhazmat.2020.122344.

Gutiérrez-Álvarez, I; Guerrero, J.L.; Martín, J.E.; Adame, J.; Vargas, A; Bolívar, J.P. 2018. Radon behavior investigation based on cluster analysis and atmospheric modelling. Atmospheric Environment. 201. pp. 50-61. 10.1016/j.atmosenv.2018.12.010

López-Coto, I., Mas, J.L., Vargas, A., Bolívar, J.P. Studying radon exhalation rates variability from phosphogypsum piles in the SW of Spain. Journal of Hazardous Materials 280, pp. 464-471 (2014)

C.2. Competitive research projects and grants (Maximum: 5)

 Proyecto: Procesos básicos que regulan el fraccionamiento y enriquecimiento de radionucleidos naturales en condiciones de Drenaje Ácido de Mina (DAM)
 Programa financiador: Programa Operativo FEDER Andalucía 2014-2020 (Ref.: UHU-1255876)
 Entidad financiadora: Junta de Andalucía Responsable: JUAN PEDRO BOLIVAR RAYA
 Fecha inicio: 01/01/2020
 Fecha fin: 31/12/2021
 Cuantía total (EUROS): 37.037,23

2. Title: Radionuclides fluxes emitted by the phosphogypsum piles from Huelva; dispersion evaluation, radiological risks and restauration proposals.
 Reference: CTM2015-68628-R financing entity: MINECO
 Principal Researcher: JUAN PEDRO BOLIVAR RAYA
 From: 1-1-2016, to: 31-12-2019
 Grands: 160.930,00

3. Title: Station for measurement and control of atmospheric radioactivity Reference: UNHU10-1E-1129 financing entity: MINECO Principal Researcher: JUAN PEDRO BOLIVAR RAYA (by UHU) From: 01/01/2010, to: 31/12/2013



Grands: 244 960.92 €

4. Title: Determination of extraction rates and sedimentation velocities by using reactive radionuclides in coastal waters.
 Reference: CTM2009-14321-C02-01
 Financing entity: MINECO
 Principal Researcher: JUAN PEDRO BOLIVAR RAYA
 From: 01/01/2010, to: 31/12/2012
 Grands: 121000 euros

5. Title: Characterization and modelling of the phosphogypsum piles from Huelva for its management and environmental control Reference: P10 - RNM-6300 financing entity: JUNTA DE ANDALUCÍA Principal Researcher: JUAN PEDRO BOLIVAR RAYA From: 26/02/2011, to: 25/03/2014 Grands: 116650 euros

C.3. Contracts (Maximum: 5)

 Title: ARSENIC REMOVAL OF THE WEAK ACID EFFLUENT COMING FROM THE GYPSUM PLANT OF A COPPER HYDROMETALLURGIC COMPLEX
 Reference: 87-2019
 Financing entity: Atlantic Copper SLU (Huelva)
 Principal Researcher: Bolívar Raya, Juan Pedro
 From 1/12/2019 to 30/9/2020
 Cantidad (EUROS): 34091,75

Title: Application of the ultrasonic technologies for improving the efficiency of the wastewater treatment plant of a petrochemical complex
 Reference: 33-2012
 Financing entity: CEPSA
 Principal Researcher: JUAN PEDRO BOLIVAR RAYA
 From: 1/1/2012, to: 31/12/2014
 Grands: 13500 euros

Title: Characterization of the materials coming from the bismuth/antimuonium pilot plant.
 Reference: 36-2018
 Financing entity: Atlantic Copper SLU
 Principal Researcher: JUAN PEDRO BOLIVAR RAYA
 From: 3/9/2018 to 31/12/2019
 Grands: 29360,65 euros

4. Title: Recovery of Cu and As removing in the waste generated during the electrolytic cleaning.
 Reference: 23-2018
 Financing entity: Atlantic Copper SLU
 Principal Researcher: JUAN PEDRO BOLIVAR RAYA
 From: 3/9/2018, to: 31/12/2019
 Grands: 29360,65 euros

5. Title: Radiological study for the remediation of the phosphogypsum piles from Huelva.
Reference: 94/2009
Financing entity: TRAGSATEC
Principal Researcher: JUAN PEDRO BOLIVAR RAYA
From: 03/12/2009, to: 31/12/2011
Grands: 173058,08 euros

C.4. Patents

1. Title: Procedure for phosphogypsum stabilization for reducing its radioactive emissions. Number: P-201130409 ; PCT/ES2012/070178

Date: 22/03/11 Owner: CSIC, Universidad de Huelva, CIEMAT Type: National and international Autores: Bolívar, JP; Gázquez-González, MJ; García-Díaz,I.; Alguacil, F.; Lopez F.

C.5. Institutional responsibilities

- Vice Chancellor of postgraduate and doctorate
- Director of Department
- Director of the Master's in Environmental Technology
- Director of Research Group FRYMA

C.6. Evaluator

- 1. Evaluator of I+D projects in ANEP and other international agencies
- 2. Miembro Comisión Técnica MINECO de la ponencia CTM
- 3. Evaluator of ANECA

C.7. Memberships of scientific societies, journals, etc.

3 Journals Editorials, 4 Presidents of Congress, 2 Scientific societies.

C.8. Spin off generated

- Environmental Technology Solutions S.L.
- NORM Technology Consulting S.L.