MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CURRICULUM VITAE (maximum 4 pages)

CV date	17/10/2022

Part A. PERSONAL INFORMATION

First, Mid and Family name	PEDRO PABLO GALLEGO		
ID number	10060468S	Age	59
	Orcid code	0000-0002-4622-1728	

A.1. Current position

Name of University	UNIVERSITY OF VIGO		
Department	PLANT BIOLOGY AND SOIL SCIENCES		
Address and Country	CAMPUS UNIVERSITARIO. VIGO. Spain		
Phone number	647343124	E-mail	pgallego@uvigo.es
Current position	FULL PROFESSOR	From	11/11/2013
Espec. cód.UNESCO	2407.05// 2417.17 // 2417.19 // 2511.02 // 3103.09 // 3107.04		
Palabras clave	PLANT & FUNGAL BIOLOGY, BIOTECHNOLOGY, SUSTAINABLE PRODUCTION, VALORIZATION & CONSERVATION; ARTIFICIAL INTELLIGENCE		

A.2. Education

Degree	University	Year
BSc with Honors in Biology	León	1986
MSc in Biology (Premio Extraordinario)	León	1987
Ph.D. in Biology	Santiago de Compostela	1992

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

Research Six-Year Terms Merits (Sexenios de Investigación):	4
R&D Six-Year Terms Merits (Sexenios de Transferencia):	1
Teaching Five-Terms Merits (Quinquenios docentes):	6
Total citations (Google Scholar):	2293
H Index (Google Scholar):	25 (i10=47)

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

Full Professor in Plant Biology at the University of Vigo (Uvigo). BSc and MSc with Distinction (León Univ.) and PhD (Santiago de Compostoela Univ.) in Biology. He carried out Pre-doc and Post-doc research stages at Florida Univ. (1990 & 1992), Nottingham Univ. (1993-1994), Sheffield Univ. (1996), and Utrecht (Sabbatical Year 2010-2011) and short stages at the Copenhagen (2009), Toulouse (2012) Univ. and at CSIC – IBMCP (Valencia, 2012). His research focuses on plant biology and agroforestry systems, with emphasis on plant biotechnology, nutrition, abiotic and biotic stress, sustainable production and conservation of woody, threatened and medicinal plants, and ectomycorrhizas with agroforestry and socio-economic interest. He has been a pioneer in the application of machine learning approaches such as artificial neural networks, fuzzy logic, and genetic algorithms. His research has been funded by 28 national and international grants and by 17 R+D contracts with private companies and administrations, achieved more than 2.6 M€. Co-author of 90 publications, proceedings, and chapters, and 132 communications to conferences, meetings, and symposia. He is a co-inventor in 1 international and 1 national patent. Supervised 22 BSc, 17 MSc, and 13 PhD Thesis. Organized 9 international (6) and national (3) congresses, is a member of 6 international societies (SEBIOT, SECITV, IAPTCB, ISHS, SEBP, and FESPP), evaluated research projects for 5 National Research Agencies Canada (NSERC), Israel (MST), Netherlands (NWO), Poland (NCN) and Spain (AEI),and refereed JCR journals, since 1995. Awarded the International Society for Horticultural Science (ISHS) medal and MSc with Distinction.

Part C. RELEVANT MERITS

C.1. Publications (2019-2022)

1. Santolamazza-Carbone S, Iglesias-Bernabé L, Sinde-Stompel E & **Gallego PP**. 2022. High-throughput-sequencing method to describe soil microbiota in chestnut orchards of different ages. **Applied Soil Ecology** (Under review).
2. Shahzad R, Harlina PW, Khan SU, Fiaz S, Leiwen X, Ewas M, Zhenyuane P, Flexas J & **Gallego PP**. 2022. The seaweed Ascophyllum nodosum-based biostimulant improves plant growth and induces salinity tolerance in rice (*Oryza sativa* L.). **Frontiers in Plant Sciences,** (Under review).
3. Lozano-Milo E, Feans L, **Gallego PP** & Barreal ME. 2022. Improving the rooting of *Taxus baccata* cuttings for restoration through aeroponics. Recursos Rurais. (In Press).
4. Lozano-Milo E, Landin M, Gallego PP, García-Pérez P. 2022. Machine learning deciphers genotype and ammonium as key factors for the micropropagation of Bryophyllum sp. medicinal plants. **Horticulturae** ,8(11):987. https://doi.org/10.3390/horticulturae8110987
5. García-Pérez P, Lozano-Milo E, Zhang L, Miras-Moreno B, Landin M, Lucini L & **Gallego PP**. 2022. Neurofuzzy logic predicts a fine-tuning metabolic reprogramming on elicited bryophyllum PCSCs guided by salicylic acid. **Frontiers in Plant Sciences,** 13:991557. Doi: 10.3389/fpls.2022.991557.
6. Alcalde MA, Müller M, Munné-Bosch S, Landin M, **Gallego PP**, Bonfill M, Palazon J & Hidalgo-Martinez D. 2022. Using machine learning to link the influence of transferred *Agrobacterium rhizogenes* genes to the hormone profile and morphological traits in *Centella asiatica* hairy roots. **Frontiers in Plant Sciences,** 13:1001023. DOI: 10.3389/fpls.2022.1001023
7. Arteta TA, Hameg R, Landín M, **Gallego PP** & Barreal ME**.** 2022. Artificial neural networks elucidated the essential role of mineral nutrients versus vitamins and plant growth regulators in achieving healthy micropropagated plants. **Plants,** 11: 1284. DOI: 10.3390/plants11101284.
8. Ewas M, Harlina PW, Shahzad R, Khames E, Ali F, Nishawy E, Elsafty N, Ibrahim HM & **Gallego PP**. 2022. Constitutive expression of SlMX1 gene improves fruit yield and quality, health-promoting compounds, and fungal resistance, and delays ripening in transgenic tomato plants. **Journal of Plant Interactions,** 17: 517-536. DOI: 10.1080/17429145.2022.2066730
9. García-Pérez P & **Gallego, PP.** 2022. Plant phenolics as dietary antioxidants: an insight on biosynthesis, sources, health-promoting effects, sustainable production, and lipid oxidation. In: Lipid Oxidation in Food and Biological Systems: A Physical Chemistry Perspective. Ed.: C. Bravo. Springer Nature. Doi: 10.1007/978-3-030-87222-9_18
10. Maleki S, Maleki-Zanjani, B, Kohnehrouz BB, Landín M & **Gallego PP.** 2022. Machine learning tools to identify key minerals of Hoagland solution for healthy kiwiberry micropropagated plant hardening. **Acta Horticulturae,** 1332: 39-45. DOI: 10.17660/ActaHortic.2022.1332.6.
11. Arteta TA, Hameg R, Landín M, **Gallego PP** & Barreal ME**.** 2022. Deciphering the effect of vitamins and mineral nutrients on kiwiberry micropropagation using computer-based tools. **Acta Horticulturae,** 1332: 31-38. DOI: 10.17660/ActaHortic.2022.1332.5.
12. Santolamazza-Carbone S, Iglesias-Bernabé L, Sinde-Stompel E & **Gallego PP**. 2021. Ectomycorrhizal fungal community structure in a young orchard of grafted and ungrafted hybrid chestnut saplings. **Mycorrhiza** 31, 189-201. DOI: 10.1007/s00572-020-01015-0
13. Fišer, Z, Aronne, G, Aavik T, Akin M, Alizoti P, … **Gallego PP**,… et al .2021. ConservePlants: An integrated approach to conservation of threatened plants for the 1st Century. **Research Ideas and Outcomes** 7(76): 62810. DOI: 10.3897/rio.7.e62810
14. Shahzad R, Harlina PW, Ewas M, Zhenyuane P, Niee X, **Gallego PP**, Khan SU, Nishawy E, Khanb AH & Jiag H. 2021. Foliar applied 24-epibrassinolide alleviates salt stress in rice (*Oryza sativa* L.) by suppression of ABA levels and upregulation of secondary metabolites. **Journal of Plant Interactions** 16 (1): 533-549. DOI: 10.1080/17429145.2021.2002444.

15. Maleki S, Maleki-Zanjani, B, Kohnehrouz BB, Landín M & **Gallego PP.** 2021. Computer-based tools unmask critical mineral nutrient interactions in Hoagland solution for healthy kiwiberry plant acclimatization. **Frontiers in Plant Science,** 12:723992. DOI: 10.3389/fpls.2021.723992.
16. García-Pérez P, Zhang L, Miras-Moreno B, Lozano-Milo E, Landin M, Lucini L & **Gallego PP**. 2021. The combination of untargeted metabolomics with machine learning predicts the biosynthesis of phenolic compounds on bryophyllum medicinal plants. **Plants** 10, 2430. DOI: 10.3390/plants10112430.
17. García-Pérez P, Miras-Moreno B, Lucini L & **Gallego, PP.** 2021. The metabolomics reveals intraspecies variability of bioactive compounds in elicited suspension cell cultures of three *Bryophyllum* species. **Industrial Crops and Products,** 163: 113322. DOI: 10.1016/j.indcrop.2021.113322
18. García-Pérez P, Ayuso M, Lozano-Milo E, Pereira C, Dias MI, Ivanov M, Calhelha RC, Sokovic M, Ferreira ICFR, Barros L & **Gallego PP.** 2021. Phenolic profiling and *in vitro* bioactivities of three medicinal Bryophyllum plants. **Industrial Crops and Products,** 162: 113241. doi: 10.1016/j.indcrop.2021.113241.
19. Lozano-Milo E, García-Pérez P & **Gallego PP.** 2020. Narrative review of the production of antioxidants and anticancer compounds from *Bryophyllum* spp. (Kalanchoe) using plant cell tissue culture. **Longhua Chinese Medicine,** 3:18. DOI: 10.21037/lcm-20-46.
20. Hameg R, Arteta TA, Landín M, **Gallego PP** & Barreal ME**.** 2020. Modeling and optimizing culture medium mineral composition for *in vitro* propagation of *Actinidia arguta.* **Frontiers in Plant Science,** 11, 554905. DOI: 10.3389/fpls.2020.554905.
21. García-Pérez P, , Lozano-Milo E, Landín M & **Gallego PP.** 2020. Machine learning unmasked nutritional imbalances in the medicinal plant *Bryophyllum* sp. cultured in vitro. **Frontiers in Plant Science,** 11, 576177. DOI: 10.3389/fpls.2020.576177
22. García-Pérez P, Lozano-Milo E, Landín M. & **Gallego PP.** 2020. From ethnomedicine to plant biotechnology and machine learning: the valorization of the medicinal plant *Bryophyllum* sp. **Pharmaceuticals,** 13, 444. DOI: 10.3390/ph13120444
23. Lago MCF, Barreal ME, **Gallego PP** & MJI Briones**.** 2020. Legacy effects of agricultural practices override earthworm control on C dynamics in kiwifruit orchards. **Frontiers in Environmental Science,** 8: 545609. Doi: 10.3389/fenvs.2020.545609.
24. Teixeira da Silva J, Nezami-Alanagh E, Barreal ME, Kher M, Wicaksono A, Gulyás A, Hidvégi N, Magyar-Tábori K, Mendler-Drienyovszki N, Márton L, Landín M, **Gallego PP**, Driver J & Dobránszki J. 2020. Shoot tip necrosis in *in vitro* plant cultures: a reappraisal of possible causes and solutions. **Planta,** 252: 47. doi: 10.1007/s00425-020-03449-4.
25. García-Pérez P, Losada-Barreiro S, **Gallego PP** & Bravo-Díaz C. 2020. Exploring the use of Bryophyllum as natural source of bioactive compounds with antioxidant activity to prevent lipid oxidation of fish oil-in-water emulsions. **Plants, 9(8) 1012**. DOI: 10.3390/plants9081012.
26. García-Pérez P, Lozano-Milo E, Landín M & **Gallego PP.** 2020. Machine learning technology reveals the concealed interactions of phytohormones on medicinal plants *in vitro* organogenesis. **Biomolecules,** 10, 746; DOI: 10.3390/biom10050746.
27. Ayuso M, Pinela J, Dias MI, Barros L, Servia S, Calhelha RC, Sokovic M, Ramil-Rego P, Barreal ME, **Gallego PP** & Ferreira ICFR. 2020. Phenolic composition and biological activities of the *in vitro* cultured endangered species *Eryngium viviparum* J. Gay. **Industrial Crops and Products**, 148:112325. DOI: 10.1016/j.indcrop.2020.112325.
28. García-Pérez P, Lozano-Milo E, Landín M & **Gallego PP.** 2020. Combining medicinal plant *in vitro* culture with machine learning technologies for maximizing the production of phenolic compounds. **Antioxidants,** 9(3), 210. DOI: 10.3390/antiox9030210.
29. Pinheiro LAM, Pereira C, Barreal ME, **Gallego PP**, Balcão VM & Almeida A. 2020. Use of phage ϕ6 to inactivate *Pseudomonas syringae* pv. *actinidiae* in kiwifruit plants: *in vitro* and *ex vivo* experiments. **Applied Microbiology and Biotechnology,** 104:1319–1330. DOI: 10.1007/s00253-019-10301-7.
30. Ayuso M, Landín M, **Gallego PP** & Barreal ME. 2019. Artificial intelligence tools to better understand seed dormancy and germination. In: **Seed Dormancy and Germination**. Ed.:

Jose Carlos Jimenez-Lopez. InTech Open. London. ISBN: 978-1-78984-861-8. DOI: 10.5772/intechopen.90374.

31. Ayuso M, García-Pérez P, Ramil-Rego P, **Gallego PP** & Barreal ME. 2019. In vitro culture for *ex situ* conservation of the endangered plant *Eryngium viviparum*. **Plant Cell Tissue and Organ Culture,** 138(3):427-435, DOI: 10.1007/s11240-019-01638-y.
32. García-Pérez P, Losada-Barreiro S, **Gallego PP** & Bravo-Díaz C. 2019. Cyclodextrin-elicited *Bryophyllum* suspension cultured cells: enhancement of the production of bioactive compounds. **International Journal of Molecular Sciences,** 20(5180). DOI: 10.3390/ijms20205180.
33. García-Pérez P**,** Losada-Barreiro S, **Gallego PP** & Bravo-Díaz C. 2019. Adsorption of gallic acid, propyl gallate and polyphenols from Bryophyllum extracts on activated carbon. **Scientific Reports,** 9:1. DOI: 10.1038/s41598-019-51322-6.
34. Nezami-Alanagh E, Garoosi GA, Landín M & **Gallego PP.** 2019. Computer-based tools provide new insight into the key factors that cause physiological disorders of pistachio rootstocks cultured *in vitro*. **Scientific Reports,** 9: 9740. DOI: 10.1038/s41598-019-46155-2.
35. Castro J, Barreal ME, Briones MJI & **Gallego PP**. 2019. Earthworm communities in conventional and organic fruit orchards under different climates. **Applied Soil Ecology,** 144: 83-91. DOI: 10.1016/j.apsoil.2019.07.013.
36. Lago MCF, **Gallego PP** & MJI Briones**.** 2019. Intensive cultivation of kiwifruit alters the detrital foodweb and accelerates soil C and N losses. **Frontiers in Microbiology,** 10686 DOI**:** 10.3389/fmicb.2019.00686.
37. García-Pérez P**,** Lozano-Milo E, **Gallego PP,** Tojo C, Losada-Barreiro S & Bravo-Díaz C. 2019. Plant antioxidants in food emulsions. In: **Current Aspects of Colloidal Systems in Food Products.** Ed.: Jafar Milani. InTech Open. London. Pp: 11-29. ISBN: 978-953-51-6801-0. DOI: 10.5772/intechopen.79592.

C.2. Research projects and grants (2019-2020)

1. Phytotron UVIGO- Set of 5 walk-in Growth Chambers for Plant. **MINECO** (EQC2019-006178-P). Duration: 2019-20. **IP: PP Gallego.** 248.000 €.
2. Cultivo de *Boletus edulis* complex en *Castanea sativa* asegurando los requerimientos para una micosilvicultura sostenible. **MINECO** (RTI2018-095568-B-I00). Duration: 2019-2022**. IP: PP Gallego.** 121.000 €.
3. AGRUPACIÓN ESTRATÉGICA CITACA. **XUNTA DE GALICIA** (ED431E 2018/07). Duration:2018-2020. **IP: Ana Torrado Agrasar**. 424.084 €.

C.2. Research & Develop Contracts with enterprises (2019-2021)

4. GREENCASTANEA- Producción de castaño micorrizado mediante cultivo *in vitro* y selección intra-varietal de variedades ixp. UNIVERSIDAD DE VIGO & HIFAS FORESTA (CO-0065-2021). Duration: 02-09-2021 to 31-07-2023. IP: **PP Gallego**. 28.500 €.
5. Optimización de parámetros de cultivos: composición solución nutritiva y condiciones lumínicas (tipo y calidad). UNIVERSIDAD DE VIGO & NÉBODA FARMS (CO-0078-2021). Duration: 21-10-2021 to 30-09-2022. IP: **ME BARREAL**. 28.000 €.
6. Optimización do cultivo en medios líquidos de fungos micorrícicos e saprófitos mediante biorreactor. UNIVERSIDAD DE VIGO & HIFAS FORESTA (CO-0014-2021). Duration: 01-10-2020 to 31-11-2021. IP: **PP Gallego**. 10.280 €.
7. Control de invernaderos basado en hardware inteligente con sensores ambientales y de parámetros fisiológicos. UNIVERSIDAD DE VIGO & H2HYDROPONICS (IN-0001-20). Duration: 01-12-2019 to 30-06-2020. IP: **PP Gallego**. 9.000 €.
8. Propagación de material vegetativo de Rosacea para emplear en acciones de restauración de LIFE FLUVIAL. 2019-20 (IN-0431-19). UNIVERSIDAD DE VIGO & IBADER. Duration: 01-11-2019 to 31-05-2020. IP: **PP Gallego**. 9.000 €.

C.4. Patents

1. Abu-Bakar UK, Barton S.L., **Gallego PP,** Gray JE, Grierson D, Lowe AL, Picton S & Whotton LC. (1999). DNA encoding fruit-ripening-related proteins, DNA constructs, cells, and plants derived therefrom. U.S. Patent No. 5,908,973. Washington, DC: U.S. Patent and Trademark Office. Application filed by: ZENECA Limited. Assigned to: ZENECA Limited.
2. **Gallego PP,** Rodríguez R, de la Torre F & Villar B. (2009). Procedimiento para transformar material vegetal procedente de árboles adultos. Patent No. ES2299285 (A1). Application filed by: Universidade de Vigo, Spain.

C5. Management Experience:

Management Positions at Vigo University:

2021-Present: Coordinator of the Interuniversity MSc in Advanced Biotechnology (Awarded with the Excellence Mention for Xunta de Galicia). Vigo & Coruña Universities

2020-Present: Member of Quality Commission of International School of Doctorate (EIDO).

2009-2012: Coordinator of the BSc in Biology, Vigo University.

2004-2010: Dean of Biology Faculty, Vigo University.

Professional Positions:

2021-Present: Vice-dean of the Spanish National Order of Biologists in Galicia (CGCGA).

2016-Present: President of the Committee for Universities and Qualification of the General Board of Spanish National Order of Biologists (CGCOB).

2015-Present President of the University Works Council.

2007-Present: Member of the Spanish National Order of Biologists in Galicia (COBGA)