CV Date	13/06/2025

Part A. PERSONAL INFORMATION

First Name	María Mónica		
Family Name	Calvo Polanco		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web	https://produccioncientifica.usal.es/investigadores/157351/detalle		
Email Address	mcalvopolanco@usal.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-0813-0921		

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

Period	Job Title / Name of Employer / Country
2020 - 2022	Investigadora de la Unidad de Excelencia AGRIENVIRONMENT / Universidad de Salamanca
2015 - 2018	AgreenSkills-Marie Curie Postdoctoral Fellow / INRA Montpellier
2015 - 2015	Postdoctoral Fellow / SupAgro-INRA Montpellier
2014 - 2015	Postdoctoral / Consejo Superior de Investigaciones Científicas
2014 - 2014	Profesora Visitante / Universidad de Iwate
2011 - 2014	Contratada Juan de la Cierva / Consejo Superior de Investigaciones Científicas
2008 - 2011	Postdoc - Research Associate / UNIVERSITY OF ALBERTA / Canada

A.3. Education

Degree/Master/PhD	University / Country	Year
Master en Bioinformática y Bioestadística	Universitat Oberta de Catalunya	2022
PhD in Forest Biology and Management	University of Alberta / Canada	2008
Ingeniera de Montes	Universidad de Valladolid	1999

Part B. CV SUMMARY

Part C. RELEVANT ACCOMPLISHMENTS

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

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1. **Scientific paper**. (1/13) Monica Calvo Polanco; Zoe Ribeyre; Myriam Dauzat; et al; Yann Boursiac. 2021. Physiological roles of Casparian strips and suberin in the transport of water and solutes. New Phytologist. NPH-MS-2021-35823. https://doi.org/10.1111/nph.17765
2. **Scientific paper**. Flavius C Pascut; Valentin Couvreur; Daniela Dietrich; et al; Kevin F Webb. 2021. Non-invasive hydrodynamic imaging input roots at cellular resolution. Nature Communications. NCOMMS-21-12338-T. https://doi.org/10.1038/s41467-021-24913-z
3. **Scientific paper**. Monica Calvo Polanco; Angel Maria Zamareño; Jose Maria Garcia Mina; Ricardo Aroca. 2019. Local ABA-Cytokinin signaling affects aquaporin regulation under drought independently of Laccaria bicolor in poplar. Journal of Experimental Botany. 70-21, pp.6437-6446. ISSN 0022-0957. https://doi.org/10.1093/jxb/erz389

4 **Scientific paper**. Carlos; Mónica; Jorge; Ana; Julio; Vicent; Rosa. 2024. The Presence of Arbuscular Mycorrhizal Fungi in the Rhizosphere of Transgenic Rapeseed Overexpressing a Trichoderma Thkel1 Gene Improves Plant Development and Yield. Agriculture. MDPI. 14-851.

5 **Scientific paper**. Angel Luigi; Alfonso; (3/5) Mónica; José Eduardo; Asunción. 2023. A mycorrhizal helper bacterium alleviates drought stress in mycorrhizal Helianthemum almeriense plants by regulating water relations and plant hormones. Environmental and Experimental Botany. Elsevier. 207-105228. ISSN 0098-8472.

6 **Scientific paper**. Guilhem Reyt; Priya Ramakrishna; Isai Salas Gonzalez; et al; David E. Salt. 2021. Two chemically distinct root lignin barriers control solute and water balance. Nature Communications. https://doi.org/10.1038/s41467-021-22550-0

7 **Scientific paper**. Monica Calvo Polanco; Juan Manuel Ruiz Lozano; Rosario Azcón; Sonia Molina; Carmen R. Beuzon; Jose Luis García; Manuel Cantos; Ricardo Aroca. 2019. Phenotypic and molecular traits determine the tolerance of olive trees to drought stress. Plant Physiology and Biochemistry. 139, pp.521-527. ISSN 0981-9428. https://doi.org/10.1016/j.plaphy.2019.04.017

8 **Scientific paper**. Janusz J. Zwiazek; Maria Alejandra Equiza; Justine Karst; Jorge Señorans; Mark Wartenbe; (6/6) Monica Calvo Polanco (AC). 2019. Role of urban ectomycorrhizal fungi in improving the tolerance of lodgepole pine (Pinus contorta) seedlings to salt stress. Mycorrhiza. Springer. 29, pp.303-312. ISSN 0940-6360. https://doi.org/10.1007/s00572-019-00893-3

9 **Scientific paper**. First-coauthor; First-coauthor; Marie Barberon; et al; David E Salt. 2019. Surveillance of cell wall diffusion barrier integrity modulates water and solute transport in plants. Scientific Reports. 9-4227. ISSN 2045-2322. https://doi.org/10.1038/s41598-019-40588-5

10 **Bibliographic review**. Capilla; Inmaculada; Noelia; et al; Oscar; (7/9) Monica. 2023. Functions of nitric oxide-mediated post-translational modifications under abioti stress. Frontiers in Plant Science. 14-1158184.

11 **Bibliographic review**. Muhammad; Tania; Hannah; Monica; Isabelle; ; Kevin; Sabine. 2021. Mycorrhizal Symbiosis for Better Adaptation of Trees to Abiotic Stress Caused by Climate Change in Temperate and Boreal Forests. Frontiers in Forest and Global Change. 4-742392. https://doi.org/10.3389/ffgc.2021.742392

12 **Bibliographic review**. Carmen Guerrero Galan; Monica Calvo Polanco; Sabine D. Zimmermann. 2019. Ectomycorrhizal symbiosis helps plants to challenge salt stress conditions. Mycorrhiza. 29, pp.291-301. ISSN 0940-6360. https://doi.org/10.1007/s00572-019-00894-2

C.2. Conferences and meetings

1 Función de los volátiles fúngicos en las relaciones hídricas en plantas. VII Edición de las Jornadas de Investigación en Ciencias Biológicas. Universidad Autónoma de Zacatecas. 2024. Mexico.

2 Sabine; Tania; Muhammad; et al; Isabelle. Unravelling the ectomyorrhizal trasnportome contributin to plant nutrition and adaptation. International Conference of the German Society for Plant Sciences. Martin Luther University Halle-Wittenberg. 2024.

3 Esperanza; Jorge; Oscar; Mónica. Role of fungal volatiles in the tolerance of plants to osmotic stress. XVII Plant Molecular Biology Meeting. Universitat Jaume I. 2024.

4 Julio; Alberto; Mónica; Enrique; Rosa. Trichoderma and arbuscular mycorrhizae induction of drought tolerance in wheat. XIX Congreso de la Sociedad Española de Fijación del Nitrógeno. Universidad de Salamanca. 2024.

5 Esperanza; Oscar; Mónica. Fungal volatiles affect plant development under stress. 6th International Molecular Mycorrhiza Metting. Sainsbury Laboratory Cambridge University. 2023. United Kingdom.

6 Esperanza; Pedro; Oscar; Monica. Mycorrhizal fungi volatiles affects plant development and root architecture through auxin and cytokinin pathways. XVI Meeting of Plant Molecular Biology (RBMP). Sociedad Española en Biología Molecular. 2022. Spain.

7 Esperanza; María; Oscar; Monica. Mycorrhizal fungi volatiles affects plant development through different hormonal pathways. XXIV Reunión de la Sociedad Española de Biología de Plantas -XII Congreso Hispano-Luso de Biología de Plantas. Sociedad Española de Biología de Plantas. 2021.
8 Monica Calvo Polanco; Maria Noya; Esperanza Miñambres; Oscar Lorenzo. High-throughput screening of Arabidopsis thaliana mutants impaired in hormonal pathways affected by mycorrhizal fungi volatiles. XV Meeting of Plant Molecular Biology. Sociedad Española de Bioquímica y Biología Molecular (SEBBM). 2020.
9 Monica Calvo Polanco; Sonia Molina; Ricardo Aroca. Phenotypic and molecular traits determine the tolerance of olive trees to drought stress. XVI Spanish Portuguese Congress of Plant Physiology. Spanish Society of Plant Physiology. 2019. Spain.
10 Monica Calvo Polanco; Yann Boursiac. Modelling water transport in plant roots. 5th AgreenSkills Annual Meeting. AgreeSkills- Maria Skolodowska Actions. 2018. United Kingdom.

C.3. Research projects and contracts

1 **Project**. Gemelos digitales e inteligencia artificial para la predicción epidemiológica de cultivos y gestión de la fertirrigación. FERTWINS. Lorenzo. (Universidad de Salamanca). 01/10/2023-30/09/2026.
2 **Project**. Función de los gránulos de estrés inducidos por Laccaria bicolor en la respuesta a sequía de chopo. Calvo Polanco. (Universidad de Salamanca). 01/09/2023-31/07/2026. 187.000 €.
3 **Project**. 0046_CIRCULAR CHALLENGE. Lorenzo. (Universidad de Salamanca). 01/06/2023-30/07/2026.
4 **Project**. Función de los volátiles de micorrizas en la absorción de agua y desarrollo de plántulas de chopo en situaciones de sequía. Monica Calvo Polanco. (Universidad de Salamanca). 01/07/2023-31/05/2025. 199.299 €.
5 **Project**. Modelling integrated biodiversity-based next generation Mediterranean farming systems. BIOMEnext PCI2022-132990. (Universidad de Salamanca). 01/06/2022-31/05/2025. 129.375 €.
6 **Project**. Caracterización del potencial de la cepa P. brassicacearum CDVBN10 como biofertilizante, bioestimulante y biopesticida para cultivos de importancia agronómicaTED2021-129157B-I00. (Universidad de Salamanca). 01/01/2023-31/12/2024. 127.950 €.
7 **Project**. Aplicacion de la biologia translacional y el microbioma en la proteccion frente a estres hidrico e hipoxia en plantas. Oscar Lorenzo. (Universidad de Salamanca). 15/12/2020-21/12/2022. 264.000 €.
8 **Contract**. Los hongos ectomicorrícicos como herramientas biotecnológicas frente al cambio climático Calvo Polanco. (Universidad de Salamanca). 22/09/2023-22/09/2025. 9.500 €.
9 **Contract**. Improving salt and drought tolerance in urban trees: soil mycorrhization potential City of Edmonton. Janusz J Zwiazek. 01/11/2008-01/11/2010. 25.000 €.
10 **Contract**. Environmental stress factors in urban trees City of Edmonton. Janusz J Zwiazek. 01/05/2006-01/06/2007. 18.000 €.
11 **Contract**. Climate change and tree growth in the province of Alberta Fortis Alberta. Janusz J Zwiazek. 01/04/2006-01/04/2009. 60.000 €.
12 **Contract**. Salt tolerance of ectomycorrhizal trees in compacted urban soils City of Edmonton. Janusz J Zwiazek. 01/03/2005-01/03/2006. 20.000 €.
13 **Contract**. Long-term impact of road salt use on soil and roadside vegetation City of Edmonton. Janusz J Zwiazek. 01/05/2004-01/09/2011. 350.000 €.
14 **Contract**. Improving salt tolerance of urban trees with ectomycorrhizas City of Edmonton. Zwiazek, Janusz J. 01/02/2003-01/02/2005. 60.000 €.