Part A. PERSONAL INFORMATION

CV date	18/05/2023

First and Family name	Alejandro PÉREZ GARCÍA		
Social Security, Passport, ID number		Age	
Researcher codes	WoS Researcher ID *(*)*	D-9373-2013	
	SCOPUS Author ID*(*)*	7007051871	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-1065-0360	

(*) At least one of these is mandatory
(**) Mandatory

A.1. Current position

Name of University/Institution	University of Malaga		
Department	Department of Microbiology		
Address and Country	Bulevar Louis Pasteur 31, 29071 Malaga, Spain		
Phone number	952131890	E-mail	aperez@uma.es
Current position	Full Professor (Catedrático)	From	08/11/2017
Key words	*Bacillus*, biological control, powdery mildews, effectors, target identification, fungicide design, fungicide resistance, sustainable control, RNAi-based fungicides		

A.2. Education

BSc/Master/PhD	University	Year
PhD in Biology	University of Malaga	1996
Master in Biological Sciences	University of Malaga	1992
BSc in Biological Sciences	University of Malaga	1991

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

JCR articles: 86 (53 in Q1)
h Index: 33. Source: Scopus (updated 18/05/2023)
Thesis supervised: 14 (currently 6 under supervision)

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

Alejandro Pérez García (Malaga, Spain, 1968) earned a B.Sc. (Biology) from the University of Malaga (1991) and a PhD in Biology from the same University (1996), obtaining in both cases the extraordinary awards for degree and doctorate. He completed a three-year postdoctoral stay at the Laboratory of Phytopathology of the University of Wageningen (Netherlands), under the supervision of Prof. Pierre de Wit. Since October 1999, he works at the Faculty of Sciences of the University of Malaga, where he is Full Professor of Microbiology since November 2017. His teaching tasks are related to the bachelor degree in Biology and the master and PhD programs in Cellular and Molecular Biology. He conducts his research activity focused on the protection of vegetable crops at the Instituto de Hortofruticultura Subtropical y Mediterranea "La Mayora" (IHSM), a mixed center of the University of Malaga (UMA) and the Spanish National Research Council (CSIC), where he leads a research group on identification of fungal targets and development of new disease control tools. He has 25 years of experience in the field of Plant Pathology, where he is recognized as an international expert in powdery mildew diseases. To date, he has written 83 articles in journals with impact factor and many other book chapters, articles in non-SCI journals and popular articles, as well as more than 200 communications to national and international conferences. He has supervised 13 PhD theses and more than twenty master theses and final degree projects. He has been Principal Investigator of seven research projects of national and regional agencies and several research contracts with national and international companies. He is a regular reviewer for numerous international journals and the Agencia Estatal de Investigación (AEI). He is a member of the Spanish Society for Microbiology (SEM), the Spanish Society for Phytopathology (SEF) and the American Society for Microbiology (ASM). Currently, his main line of research is the study of the molecular bases of the biotrophy and pathogenesis of powdery mildew fungi, using the

cucurbit powdery mildew pathogen *Podosphaera xanthii* as a model system, in which he tries to provide sustainable solutions to combat this group of diseases of enormous economic importance. The search for these solutions is approached by deepening the knowledge of the biology of *P. xanthii* with the main objective of identifying new target candidates for the development of new chemical and RNAi-based fungicides. Furthermore, for the control of these diseases, he also focuses on the development of biological control products based on systemic resistance-inducing and antagonistic bacteria of the *Bacillus* genus that have been effective in controlling the disease in protected and open field crops. All this, with the final objective of developing novel, alternative and sustainable crop protection strategies. To carry out these R&D projects, he has the financial support of AEI and companies such as the Dutch multinational company Koppert B.V., the market leader in biological crop protection. He is currently collaborating with Prof. Jorge Gálvez (University of Valencia), an expert in computer-aided drug design, to design new plant protection tools using molecular topology approaches.

Part C. RELEVANT MERITS

C.1. Publications

1. Berlanga-Clavero MV, C Molina-Santiago, AM Caraballo-Rodríguez, **A Pérez-García** (6/10), D Romero (2022) *Bacillus subtilis* biofilm matrix components target seed oil bodies to promote growth and anti-fungal resistance in melon. NATURE MICROBIOLOGY 7: 1001-1015. DOI: 10.1038/s41564-022-01134-8.
2. Martínez-Cruz J, D Romero, J Hierrezuelo, M Thon, A de Vicente, **A Pérez-García** (AC) (2021) Effectors with chitinase activity (EWCAs), a family of conserved, secreted fungal chitinases that suppress chitin-triggered immunity. THE PLANT CELL 33: 1319-1340. DOI: 10.1093/plcell/koab011.
3. Polonio A, D Fernández-Ortuño, A de Vicente, **A Pérez-García** (AC) (2021) A haustorial-expressed lytic polysaccharide monooxygenase from the cucurbit powdery mildew pathogen *Podosphaera xanthii* contributes to the suppression of chitin-triggered immunity**.** MOLECULAR PLANT PATHOLOGY 22: 580-601. DOI: 10.1111/mpp.13045.
4. Cámara-Almirón J, Y Navarro, L Díaz-Martínez, **A Pérez-García** (8/9), D Romero (2020) Dual functionality of the amyloid protein TasA in *Bacillus* physiology and fitness on the phylloplane. NATURE COMMUNICATIONS 11: 1859. DOI: 10.1038/s41467-020-15758-z.
5. Martínez-Cruz J, D Romero, FN de la Torre, D Fernández-Ortuño, JA Torés, A de Vicente, **A Pérez-García** (AC) (2018) The functional characterization of *Podosphaera xanthii* candidate effector genes reveals novel target functions for fungal pathogenicity. MOLECULAR PLANT-MICROBE INTERACTIONS 31: 914-931. DOI: 10.1094/MPMI-12-17-0318-R.
6. Vela-Corcía A, D Romero, A de Vicente, **A Pérez-García** (AC) (2018) Analysis of β-tubulin-carbendazim interaction reveals that binding site for MBC fungicides does not include residues involved in fungicide resistance. SCIENTIFIC REPORTS 8: 7161. DOI: 10.1038/s41598-018-25336-5.
7. Martínez-Cruz J, D Romero, A de Vicente, **A Pérez-García** (AC) (2017) Transformation of the cucurbit powdery mildew pathogen *Podosphaera xanthii* by *Agrobacterium tumefaciens*. NEW PHYTOLOGIST 213: 1961-1973. DOI: 10.1111/nph.14297.
8. **Pérez-García A** (AC), D Romero, A de Vicente (2011) Plant protection and growth stimulation by microorganisms: biotechnological applications of Bacilli in agriculture. CURRENT OPINION IN BIOTECHNOLOGY 22: 187-193. DOI: 10.1016/j.copbio.2010.12.003.
9. **Pérez-García A** (AC), Romero D, Fernández-Ortuño D, Ruiz-López F, de Vicente A, Torés JA (2009) The powdery mildew fungus *Podosphaera fusca* (synonym *Podosphaera xanthii*), a constant threat to cucurbits. MOLECULAR PLANT PATHOLOGY 10: 153-160. DOI: 10.1111/j.1364-3703.2008.00527.x.
10. Romero D, A de Vicente, RH Rakotoaly, SE Dufour, J-W Veening, E Arrebola, FM Cazorla, OP Kuipers, M Paquot, **A Pérez-García** (AC) (2007) The iturin and fengycin families of lipopeptides are key factors in antagonism of *Bacillus subtilis* toward *Podosphaera fusca*. MOLECULAR PLANT-MICROBE INTERACTIONS 20: 430-440.

C.2. Congress communications

About 250 communications to national and international meetings and conferences.

C.3. Research projects and grants

1. Sustainable control of powdery mildews by spray-induced gene silencing of genes involved in supression of chitin signaling. Financing entity: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (PCD2021-121373-C21). Duration: 2021-2023. Principal Investigator: **A. Pérez García**. Institution: Universidad de Málaga. Amount: 103.500 €.
2. Sustainable control of *Botrytis cinerea* by new crop protection tools. Financing entity: Proyectos I+D+i (PAIDI 2020) (P20_0048). Duration: 2021-2023. Principal Investigator: D Fernández Ortuño. Institution: University of Malaga. Amount: 132.000 €.
3. Rational design of new crop protection tools. Financing entity: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (PID2019-107464RB-C21). Duration: 2020-2023. Principal Investigator: **A. Pérez García**. Institution: University Malaga. Amount: 208.120 €.
4. Rational design for agricultural fungicides: Design of inhibitors of phosphorous assimilation. Financing entity: Programa Operativo FEDER Andalucía (UMA18-FEDERJA-025). Duration: 2019-2021. Principal Investigator: **A. Pérez García**. Institution: University of Malaga. Amount: 78.827 €.
5. Development of new tools for control of powdery mildews. Financing entity: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (AGL2016-76216-C2-1-R). Duration: 2017-2019. Principal Investigator: **A. Pérez-García**. Institution: University of Malaga. Amount: 223.850 €.
6. Exploitation of genomics for the control of cucurbit powdery mildew. Financing entity: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (AGL2013-41939-R). Duration: 2014-2016. Principal Investigator: **A. Pérez-García**. Institution: University of Malaga. Amount: 193.600 €.
7. Genomic approaches for the rational control of cucurbit powdery mildew (*Podosphaera fusca*) (AGL 2010-21848-CO2-01). Financing entity: Programa Nacional de Recursos y Tecnologías Agroalimentarias (Plan Nacional de I+D+I). Duration: 2011-2013. Principal Investigator: **A. Pérez-García**. Institution: University of Malaga. Amount: 193.600 €.

C.4. Contracts

1. Continuation of an experimental study on the fungi that cause the regressive death of avocado, to propose the most suitable antifungal treatment. Financing Company: TROPS-SAT 2803, Viveros Blanco y Viveros Brokaw. Duration: 2021-2022. Principal Investigator: F. M. Cazorla. Institution: University of Malaga. Amount: 35.280 €.
2. Carrying out an experimental study on the fungi that cause the regressive death of avocado, to propose the most suitable antifungal treatment. Financing Company: TROPS-SAT 2803, Viveros Blanco y Viveros Brokaw. Duration: 2019-21. Principal Investigator: F. M. Cazorla. Institution: University of Malaga. Amount: 70.560 €.
3. Research & development and licensing agreement for the use of the strains UMAF6614 and UMAF6639 as active ingredients in commercial products such as biostimulants and biofungicides. Financing Company: KOPPERT B.V. (The Netherlands). Duration: 2018-2023. Principal Investigator: **A. Pérez-García**. Institution: University of Malaga. Amount: 667.500 €.
4. Determination of baseline sensitivities and distribution of the resistance in *Podosphaera xanthii* to a new fungicide of DowDupont. Financing Company: DowDupont Inc (USA). Duration: 2018-2021. Principal Investigator: D. Fernández-Ortuño. Institution: University of Malaga. Amount: 86.250 €.
5. Research & development and licensing agreement for the use of the strains UMAF6614 and UMAF6639 as active ingredients in commercial products such as biostimulants and biofungicides. Financing Company: KOPPERT B.V. (The Netherlands). Duration: 2013-2018. Principal Investigator: **A. Pérez-García**. Institution: University of Malaga. Amount: 667.500 €.
6. Bacterial and fungal diseases that affect mango and, in particular, mango malformation and its causal agent *Fusarium* spp. Financing Company: Sociedad Agraria de Transformación TROPS -SAT 2803, Reyes Gutiérrez, Agrocanillas, Viveros Blanco. y Viveros Brokaw.

Duration: 2009-2013. Principal Investigator: A. de Vicente. Institution: University of Malaga. Amount: 67.280 €.

C.5. Patents

1. **Pérez-García A**, J Martínez-Cruz, R Zanni, D Romero, D Fernández-Ortuño, M Gálvez-Llompart, R García-Doménech, J Gálvez. Chitin deacetylase inhibitors and their use as agricultural fungicides, arthropocides and nematicides. WO2020234497 (2020) Priority Data: P201930440 17.05.2019 ES.

C.6. Training activities

1. PhD theses: I have directed or co-directed 14 PhD theses and I am currently participating in the supervision of 6 PhD students.
2. Master theses: I have directed or co-directed 19 master theses.

C.7. Dissemination activities

1. De Vicente A, **A Pérez-García**, FM Cazorla. Bacterias fitopatógenas: introducción a su biología, ecología y taxonomía. In: ENFERMEDADES DE PLANTAS CAUSADAS POR BACTERIAS. MM López, J Murillo, E Montesinos, A Palacio-Bielsa (eds.) SEF y Bubok, pp. 33-57 (2018). Publishing SL. Madrid, Spain.
2. Fernández-Ortuño D, **A Pérez-García**, JA Torés, A de Vicente. Resistencia a múltiples fungicidas en *Botrytis cinerea* en fresa. AGRICOLA VERGEL 405: 327-330 (2017).
3. **Pérez-García A**, D Romero, JA Torés. Control biológico de oídio de cucurbitáceas. In: CONTROL BIOLÓGICO DE ENFERMEDADES VEGETALES. A de Cal, P Melgarejo (eds.), pp. 186-193 (2017). PHYTOMA. Valencia, Spain.
4. Bellón-Gómez, D, **A Pérez-García**, A de Vicente, JA Torés. Control integrado del oídio de las cucurbitáceas. VIDA RURAL 344: 24-27 (2012).
5. Torés JA, A de Vicente, **A Pérez-García**. Oídio de las Cucurbitáceas. In: ENFERMEDADES DE LAS PLANTAS CAUSADAS POR HONGOS Y OOMICETOS. Naturaleza y control integrado. RM Jiménez Díaz, E Montesinos Seguí (eds.), pp. 251-265 (2010). Phytoma, Valencia, Spain.

C.8. Evaluation of articles and research projects

1. Regular reviewer of indexed journals such as Environmental Microbiology, Frontiers in Plant Science, Microbial Biotechnology, Molecular Plant-Microbe Interactions, Pest Managent Science, Scientific Reports, among others.
2. Regular reviewer of Agencia Estatal de Investigación (AEI, State Research Agency) for projects in the thematic subarea Agriculture.
3. Invited expert in Project Evaluation Commissions of AEI, thematic subarea Agriculture (2008, 2017 and 2018 calls).
4. Board member of the subarea Agriculture and Forestry (AYF), area Food and Agricultural Sciences (CAA) of the Spanish Research Agency (AEI).

C.9. Scientific activity management

1. Head of Department of Plant Protection of IHSM-UMA-CSIC (June 2016-December 2018).
2. Vocal of the Organizing Committee of the XXVII National Congress of Microbiology. National Scientific Meeting. July 2-5, 2019. Malaga.
3. Vocal of the Organizing Committee of the 1st Meeting of the Specialized Group on Chemical Control of Diseases and Development of Resistance to Phytosanitary Products. National Scientific Meeting. October 2, 2017. Malaga.
4. Vocal of the Organizing Committee of the 9th International Conference on *Pseudomonas syrin*gae and Related Pathogens. International Scientific Meeting. June 2-5, 2015. Malaga (Spain).
5. President of the Organizing Committee of the XVI Congress of the Spanish Society of Phytopathology. National Scientific Meeting. September 17-21, 2012. Malaga.
6. Secretary of the Organizing Committee of the IV Meeting of the Specialized Group on Plant Microbiology. National Scientific Meeting. February 16-20, 2011. Tangier (Morocco).