

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Rafael		
Family name	Palos Fernández		
Gender	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	rafaelpalosf@gmail.com		
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-6648-5563		

A.1. Current position

Position	Postdoctoral Scientist		
Initial date	02/12/2023		
Institution	University of Cordoba		
Department/Center	Genetics		
Country	Spain	Telephone number	+34 673082822
Key words	Fungal genetics. Fungal pathogens. <i>Fusarium oxysporum</i> . Copper homeostasis. Superoxide dismutases.		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
21/10/2019 – 01/12/2023	PhD Student

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biosciences and agro-food sciences (international mention)	University of Cordoba/Spain	2023
MSc Degree in Biotechnology	University of Cordoba/Spain	2019
BSc Degree in Biology	University of Cordoba/Spain	2018

Part B. CV SUMMARY

My research career began during the second year of my BSc studies in Biology at the University of Cordoba as an undergraduate research assistant in the lab of Prof. Antonio Di Pietro. I collaborated in the laboratory as an internship student until the end of my studies, and I also did my BSc thesis there. I was awarded the Extraordinary BSc Degree Award by the University of Cordoba for achieving one of the three highest grades. Next, I enrolled in the MSc in Biotechnology at the same university and graduated in 2019 with a MSc thesis performed in the research group of Prof. Antonio Di Pietro. During this period, I received a competitive research studentship grant from the Spanish Ministry of Education.

In October 2019, I obtained a competitive personal PhD fellowship from the Spanish Ministry of Science, Innovation and Universities, to start a PhD thesis under the supervision of Profs. Manuel Sánchez López-Berges and Antonio Di Pietro. My PhD project focused on the role of copper homeostasis and superoxide dismutase in the phytopathogenic fungus *Fusarium oxysporum*. During my PhD work I performed two internships of 3 and 2 months funded by the Spanish Ministry and EMBO in the lab of Prof. Joseph Strauss at BOKU in Vienna, where I learned and performed chromatin immunoprecipitation in *Fusarium*. In December 2023 I obtained my PhD degree with international mention and the highest qualification *cum laude*. Currently I am continuing my work on the same topic as a postdoctoral researcher. Throughout my research career I have acquired a broad portfolio of skills in microbiology, molecular biology (DNA, RNA and protein analysis), genetic transformation, infection assays in plant and insect models, as well as RNA-seq and ChIP-seq assays and data analyses.



I have presented my research in posters and selected talks at two international and one national conferences. Currently I have one first author publication on my MSc work in “J Fungi” and two more papers on my PhD work in preparation.

Part C. RELEVANT MERITS

C.1. Publications

Scientific articles

1. **Palos-Fernández R**, Turrà D, Di Pietro A. (2022). The Gal4-Type Transcription Factor Pro1 Integrates Inputs from Two Different MAPK Cascades to Regulate Development in the Fungal Pathogen *Fusarium oxysporum*. *J Fungi*, 8:1242.
2. **Palos-Fernández R**, Aguilar-Pontes MV, Puebla-Planas G, Berger H; Studt-Reinhold L; Strauss J; Di Pietro A; Sánchez-López-Berges M. Mac1 dependent copper reduction and acquisition are essential for *Fusarium oxysporum* pathogenicity. In preparation.
3. **Palos-Fernández R**; Di Pietro A; López-Berges MS. Two Cu-cofactored Superoxide Dismutases are required for full virulence in *Fusarium oxysporum*. In preparation.

C.2. Congresses

Oral presentations (Speaker underlined)

1. **Palos-Fernández R**, Aguilar-Pontes MV, Berger H; Studt-Reinhold L; Strauss J; Di Pietro A; Sánchez-López-Berges M. Role of the transcription factor MacA in *Fusarium oxysporum* pathogenicity. 16th European Conference of Fungal Genetics. Innsbruck, Austria. 2023.
2. **Palos-Fernández R**; Di Pietro A; López-Berges MS. Relevance of copper homeostasis in *Fusarium oxysporum* pathogenicity. XLII Congress of the Spanish Society of Genetics. Online, Spain. 2021.

Poster presentations

1. **Palos-Fernández R**; Di Pietro A; López-Berges MS. Analysis of Superoxide Dismutase activity in *Fusarium oxysporum*. 31st Fungal Genetics Conference. Pacific Grove, USA. 2022.
2. **Palos-Fernández R**; Di Pietro A; López-Berges MS. Relevance of copper homeostasis in *Fusarium oxysporum* pathogenicity. 31st Fungal Genetics Conference. Pacific Grove, USA. 2022.
3. **Palos-Fernández R**; Di Pietro A; López-Berges MS. Relevancia de la homeostasis del cobre en la patogenicidad de *Fusarium oxysporum*. XXVIII Congreso de la Sociedad Española de Microbiología. Online, Spain. 2021.

C.3. Participation in Research projects

1. PID2022-140187OBI00. Reprogramación genética y del desarrollo en patógenos fúngicos durante su adaptación al huésped. Ministry of Science and Innovation, Spain. PI: Antonio Di Pietro and Manuel Sánchez López-Berges, University of Cordoba, Cordoba, Spain. 2022-2025. 350,000 €. Participation: Collaborator.
2. ProyExcel_00488. Characterization of fungal transcription factors regulating vascular wilt disease (FUNPATHOREG). Junta de Andalucía, Spain. PI: Manuel Sánchez López-Berges, University of Cordoba, Cordoba, Spain. 2022-2025. 159,410 €. Participation: Researcher employed by the project.
3. TED2021-130262BI00. Descodificando el diálogo molecular entre los patógenos fúngicos y los microorganismos de la rizosfera para mejorar el biocontrol. Ministry of Science and Innovation, Spain. PI: Antonio Di Pietro and Carmen Ruiz Roldán, University of Cordoba, Cordoba, Spain. 2022-2024. 316,250 €. Participation: Collaborator.



4. PID2019-108045RB-I00. Plasticidad celular y genética en la adaptación al huésped de los patógenos fúngicos. Ministry of Science, Innovation and Universities, Spain. PI: Antonio Di Pietro, University of Córdoba, Córdoba, Spain. 2020-2023. 314,600 €. Participation: Collaborator.
5. P20_00179. Mecanismos de adaptación celular y genética en el hongo patógeno *Fusarium oxysporum*: nuevas estrategias de control (FUSICONTROL). Junta de Andalucía, Spain. PI: Antonio Di Pietro, University of Córdoba, Córdoba, Spain. 2021-2023. 100,000 €. Participation: Collaborator.
6. Proyecto. 27375-R. Relevancia de la homeostasis de cobre y zinc en la patogénesis de *Fusarium oxysporum* (PATOMETAL). Ministry of Science and Innovation, Spain. PI: Manuel Sánchez López-Berges, University of Córdoba, Córdoba, Spain. 2020-2021. 46,116.47 €. Participation: Collaborator.

Part D. Grants, awards and prizes.

D.1. Personal Grants

1. EMBO Scientific Exchange Grant. EMBO. 23/08/2022. 6,116€.
2. Complementary support for beneficiaries of PhD grants (FPU): Short Stays and Temporary Transfers. 18/10/2021. Ministry of Universities, Spain. 3,060€.
3. University Professor Training Programme (FPU) PhD Grant. Ministry of Science, Innovation and Universities, Spain. 13/06/2019. 65,688€.
4. Research Studentship Grant. Ministry of Education and Vocational Training, Spain. 07/11/2018. 2,000€.

D.2. Prizes and awards

1. Extraordinary Degree Award. BSc Degree in Biology. University of Córdoba, Spain. 24/01/2019.