



### CURRICULUM VITAE (CVA)

**IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.**

Part A. PERSONAL INFORMATION		CV date	15/01/2024
First name	Lucía		
Family name	Gómez Gil		
Gender (*)	Female	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	b12gogil@uco.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-9512-656X		

(\*) Mandatory

#### A.1. Current position

Position	Postdoctoral Researcher		
Initial date	16/03/2023		
Institution	University of Córdoba		
Department/Center	Genetics	Faculty of Science	
Country	Spain	Teleph. number	957212421
Key words	Genome plasticity, Chromosome dynamics, Pathogenesis, <i>Fusarium oxysporum</i>		

#### A.2. Previous positions (research activity interruptions, see call)

Period	Position/Institution/Country/Interruption cause
2022-2023 (Mar-Mar)	Researcher / University of Córdoba / Spain
2017-2022 (Oct-Mar)	PhD Fellow (FPU program) / University of Córdoba / Spain
2017-2017 (Apr-Jun)	Researcher / University of Córdoba / Spain
2015-2016 (Sep-Jul)	Collaboration Fellow / University of Córdoba / Spain

#### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	University of Córdoba / Spain	2022
MSc degree in Teacher Training (MAES)	University of Córdoba / Spain	2022
MSc degree in Biotechnology	University of Córdoba / Spain	2016
BSc degree in Biochemistry	University of Córdoba / Spain	2015

#### Part B. CV SUMMARY (max. 5000 characters, including spaces)

Graduated in Biochemistry (2015) and MSc Degree in Biotechnology (2016) from University of Córdoba (UCO). In 2013, I joined the "Molecular Genetics of Fungal Pathogenicity" group (Department of Genetics) as an internship student, where I carried out my BSc (Distinction grade) and MSc theses about the relation of nitrate metabolism with *Fusarium oxysporum* pathogenicity, which led to a first author publication in *Current Genetics*. In 2015, I was awarded a competitive Collaboration Grant by the Spanish Ministry of Education, Culture and Sport, giving me the opportunity to learn and work side by side with experienced researchers in the area of Genetics.



In 2017, I started my PhD thesis in the same research group supported by a competitive FPU Fellowship (FPU16/01029) from the Spanish Ministry of Education, Culture and Sport under the supervision of Profs. Antonio Di Pietro and María Isabel González Roncero. My PhD work, framed within a research line recently implemented in the group, focused on the structure and dynamics of chromosomes and their involvement in genome plasticity of *F. oxysporum*. The results obtained have contributed to the generation of new knowledge about the genome structure of this fungal pathogen, discovering the existence of previously unrecognized duplicated accessory regions and reporting for the first time the presence of a new mini-chromosome. In 2019, I performed a three-month international research stay in the group of Prof. Martijn Rep at University of Amsterdam (The Netherlands), funded by a mobility grant from the Spanish Ministry of Science, Innovation and Universities, where I acquired skills on flow cytometry and expanded my knowledge on new methodologies for quantitative measure chromosome loss frequency. During my PhD, I also collaborated with Drs. Javier Capilla and Loida López-Fernández at Universitat Rovira i Virgili (Spain) on the role of metal homeostasis in fungal pathogenicity, which led to two publications as second author in the journals *Virulence* and *Metallomics*. In July 2022, I obtained my PhD with the distinctions “Cum Laude” and International Mention.

As a postdoctoral researcher, I am actively collaborating in several projects with leading researchers from different countries, including the role of histone methylation in pathogenicity of *F. oxysporum* (Dr. Slavica Janevska, Jena, Germany) and the chromosome dynamics in banana and tomato pathogenic *F. oxysporum* strains (Prof. Michael Seidl, Utrecht, The Netherlands; Prof. Li-Jun Ma, Massachusetts, USA; Prof. Toni Gabaldón, Barcelona, Spain). The establishment of this collaborative network has allowed me to expand my research to different members of the *F. oxysporum* species complex providing me with a broader vision on the mechanisms of genome instability and virulence.

During the past 10 years, I have used multidisciplinary approaches combining genetics, microbiology, molecular biology, biochemistry and plant pathology, as well as developed a novel method for the quantification and isolation of colony growth variants (published in *Methods in Molecular Biology*). My research has been presented at international and national conferences, both as poster and oral presentations, publishing a book chapter presented in the “I Scientific Congress of New Researchers” (*UCOPress*). Since 2020, I am participating in the “Joint Fungal Genetics Seminars” coordinated by Genetics Departments (Universities of Sevilla and Córdoba) in which we present our research with the purpose of providing feedback and advancing in the fungal genetics field. I have given three talks at these seminars, in addition to attending those given by other pre- and postdoctoral researchers.

In addition to my research work, I have been involved in different academic activities including teaching practical lessons in Biology, Biochemistry and Veterinary degrees (a total of 109 hours), as well as in the training of students through the co-direction of two BSc Thesis, one MSc Thesis (ongoing) and external internships for Erasmus students. I have also participated in several outreach activities for the University community as well as for High School students.

## Part C. RELEVANT MERITS

### C.1. Publications (\*Corresponding author(s))

#### Journals

- 1) Janevska, S.\*, **Gómez-Gil, L.**, Sae-Ong, T., Studt-Reinhold, L., López-Berges, MS., Panagiotou, G., Rep, M., Di Pietro, A. (2024). Facultative heterochromatin regulates fungal virulence in *Fusarium oxysporum*, and is exceptionally governed by one H3K36- and three H3K27-specific methyltransferases. In preparation.
- 2) Lorenzo-Gutiérrez, D., **Gómez-Gil, L.**, Guarro, J., Roncero, MIG., Capilla, J.\*, López-Fernández, L.\* (2020). Cu transporter protein CrpF protects against Cu-induced toxicity in *Fusarium oxysporum*. *Virulence* 11(1):1108-1121. DOI: 10.1080/21505594.2020.1809324.



- 3) Lorenzo-Gutiérrez, D., **Gómez-Gil, L.**, Guarro, J., Roncero, MIG., Fernández-Bravo, A., Capilla, J.\*, López-Fernández, L.\* (2019). Role of the *Fusarium oxysporum* metallothionein Mt1 in resistance to metal toxicity and virulence. ***Metalomics: integrated biometal science*** 11(7):1230-1240. DOI: 10.1039/c9mt00081j.
- 4) **Gómez-Gil, L.**, Camara-Almiron, J., Rodriguez-Carrillo, PL., *et al.*, Roncero, MIG.\* (1/9) (2018). Nitrate assimilation pathway (NAP): role of structural (*nit*) and transporter (*ntr1*) genes in *Fusarium oxysporum* f.sp. *lycopersici* growth and pathogenicity. ***Current genetics*** 64(2): 493-507. DOI: 10.1007/s00294-017-0766-8.

### Book chapters

- 1) Díaz, CL., **Gómez-Gil, L.**, Pérez-Nadales, E., Velasco, GN., Di Pietro, A.\* (2022). Quantification and Isolation of Spontaneous Colony Growth Variants. In: Coleman, J. (eds) *Fusarium wilt. Methods in Molecular Biology* 2391:55-62. Humana, New York, NY. ISBN: 978-1-0716-1795-3. DOI: 10.1007/978-1-0716-1795-3\_5.
- 2) Díaz, CL., Aguilar-Pontes, V., Masachis, S., *et al.*, Di Pietro, A. (4/12) (2022). Plasticidad genética y celular de los patógenos fúngicos durante la adaptación al huésped. *IX Jornadas de Divulgación de la Investigación en Biología Molecular, Celular, Genética y Biotecnología. UCOPress* 39-42. ISBN: 978-84-9927-717-2
- 3) **Gómez-Gil, L.** (2016). Papel de las nitrato reductasas en el metabolismo nitrogenado de *Fusarium oxysporum*. In: Marinas-Aramendía, A. (eds) *Investigando por un futuro mejor. UCOPress* 118-122. ISBN: 978-84-9927-291-7.

### C.2. Congress (Presenting author)

- 1) **Gómez Gil, L.**, López-Díaz, C., Ayhan, D., Ma, LJ., Di Pietro, A. Chromosome dynamics in the highly plastic genome of the fungal pathogen *Fusarium oxysporum*. *16<sup>th</sup> European Conference on Fungal Genetics*. 5-8 March 2023, Innsbruck (Austria). International. Oral presentation and Poster.
- 2) **Puebla-Planas, G.**, **Gómez Gil, L.**, Ayhan, D., Ma, LJ., López-Díaz, C., Saupe, S., López-Berges, MS., Di Pietro, A. Role of Spok genes in chromosome dynamics and stability in the clonally evolving pathogen *Fusarium oxysporum*. *16<sup>th</sup> European Conference on Fungal Genetics*. 5-8 March 2023, Innsbruck (Austria). International. Poster.
- 3) **Gómez-Gil, L.**, López-Díaz, C., Ayhan, D., Ma, LJ., Di Pietro, A. Contribution of chromosome rearrangements to the genomic plasticity of the fungal pathogen *Fusarium oxysporum*. *XLII Congreso de la Sociedad Española de Genética*. 14-18 June 2021, Online. National. Oral presentation and Poster.
- 4) **Di Pietro, A.**, López-Díaz, C., Ayhan, D., **Gómez-Gil, L.**, Ma, LJ. Estudio de los mecanismos de adaptación en el hongo patógeno *Fusarium oxysporum* mediante evolución experimental. *XXVIII Congreso de la Sociedad Española de Microbiología*. 28 June - 2 July 2021, Online. National. Invited oral presentation.
- 5) **Gómez-Gil, L.**, López-Díaz, C., Ayhan, D., Ma, LJ., Di Pietro, A. Structural dynamics of chromosomes and its role in genome plasticity of *Fusarium oxysporum*. *15<sup>th</sup> European Conference on Fungal Genetics*. 17-20 February 2020, Rome (Italy). International. Poster.
- 6) **Di Pietro, A.**, López-Díaz, C., Ayhan, D., **Gómez-Gil, L.**, Okeke, I., Sohrab, V., Ma, LJ. Transposons drive adaptive evolution in the fungal pathogen *Fusarium oxysporum*. *EMBL Conference: Molecular Mechanisms in Evolution and Ecology*. 30 September - 3 October 2020, Online. International. Oral presentation.
- 7) **Gómez-Gil, L.**, Bravo-Ruiz, G., Di Pietro, A., Roncero, MIG. Functionality of *Fusarium oxysporum* chromosome subtelomeric regions in genome plasticity. *14<sup>th</sup> European Conference on Fungal Genetics*. 25-28 February 2018, Haifa (Israel). International. Poster.
- 8) **Gómez-Gil, L.**, Bravo-Ruiz, G., Di Pietro, A., Roncero, MIG. Physical structure of the chromosome ends and their implications in *Fusarium oxysporum* genome plasticity. *15<sup>th</sup> Congress of the Mediterranean Phytopathological Union*. 20-22 June 2017, Córdoba (Spain). International. Poster.
- 9) **Gómez-Gil, L.** Papel de las nitrato reductasas en el metabolismo nitrogenado de *Fusarium oxysporum*. *I Congreso científico de investigadores/as noveles: Investigando por un futuro mejor*. 11 November 2016, Córdoba (Spain). National. Oral presentation.



**10) Cámara-Almirón, J., Gómez-Gil, L., Bravo-Ruiz, G., Gutiérrez-Corona, F., Roncero, MIG.** Análisis molecular del metabolismo del nitrato en *Fusarium oxysporum* f.sp. *lycopersici*. *XL Congreso de la Sociedad Española de Genética*. 16-18 September 2015, Córdoba (Spain). National. Poster.

### **C.3. Research projects (Participation role)**

**1) P.P. 2023 Submod.2.4:** Implementación del modelo metabólico y regulatorio del hongo fitopatógeno *Fusarium oxysporum* durante la infección. University of Córdoba. PI: María Victoria Aguilar Pontes (University of Córdoba). 18/09/2023 - 17/09/2024. 10.000,00 €. Researcher.

**2) PID2022-140187OB-I00:** Reprogramación genética y del desarrollo en patógenos fúngicos durante su adaptación al huésped. Ministerio de Ciencia e Innovación. PI: Antonio Di Pietro and Manuel Sánchez López-Berges (University of Córdoba). 01/09/2023 - 31/08/2026. 350.000,00 €. Team member.

**3) TED2021-130262B-I00:** Descodificando el diálogo molecular entre los patógenos fúngicos y los microorganismos de la rizosfera para mejorar el biocontrol. Ministerio de Ciencia e Innovación. PI: Antonio Di Pietro and María del Carmen Ruiz Roldán (University of Córdoba). 01/12/2022 - 30/11/2024. 316.250,00 €. Team member.

**4) PLEC2021-007777:** Evolución dirigida de consorcios microbianos mejorados para el biocontrol de la Fusariosis vascular del Plátano de Canarias (EVOMICROBIA). Ministerio de Ciencia e Innovación - Líneas Estratégicas. PI: Antonio Di Pietro y Jesús Mercado Blanco (University of Córdoba and Estación Experimental del Zaidín-CSIC (Granada)). 01/12/2021 - 30/11/2024. 210.000,00 €. Researcher employed by the project.

**5) P20\_00179:** Mecanismos de adaptación celular y genética en el hongo patógeno *Fusarium oxysporum*: nuevas estrategias de control (FUSICONTROL). Consejería de Economía, Conocimiento, Empresas y Universidad (Junta de Andalucía). PI: Antonio Di Pietro (University of Córdoba). 05/10/2021 - 31/03/2023, 100.000,00 €. Researcher employed by the project.

**6) PID2019-108045RB-I00:** Plasticidad celular y genética en la adaptación al huésped de los patógenos fúngicos. Ministerio de Ciencia, Innovación y Universidades. PI: Antonio Di Pietro (University of Córdoba). 01/06/2020 - 31/12/2023. 314.600,00 €. Team member.

**7) 27375-R:** Relevancia de la homeostasis de cobre y zinc en la patogénesis de *Fusarium oxysporum* (PATOMETAL). Consejería de Economía, Conocimiento, Empresas y Universidad (Junta de Andalucía). PI: Manuel Sánchez López-Berges (University of Córdoba). 01/01/2020 - 31/12/2021. 46.116,47 €. Researcher.

**8) BIO2016-78923-R:** Mecanismos genéticos de la infección fúngica inducidos por el hospedador. Ministerio de Economía y Competitividad. PI: María Isabel González Roncero and Antonio Di Pietro (University of Córdoba). 30/12/2016 - 31/12/2020. 423.500,00 €. Team member.

**9) BIO2013-47870-R:** Adaptación genómica y molecular al estilo de vida patogénico en *Fusarium oxysporum*. Ministerio de Economía y Competitividad. PI: María Isabel González Roncero and Antonio Di Pietro (University of Córdoba). 01/01/2014 - 30/06/2017, 447.700,00 €. Team member.

### **C.4. Contracts, technological or transfer merits**