CV Date	03/10/2024

Part A. PERSONAL INFORMATION

First Name	Francisco David		
Family Name	Carmona López		
Sex	Male	Date of Birth	XX/XX/XXXX
ID number Social Security, Passport	XXXXXXXXX		
URL Web	http://wpd.ugr.es/~dcarmona/wordpress/		
Email Address	dcarmona@ugr.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-1427-7639		

A.1. Current position

Job Title	Associate Professor [Profesor Titular de Universidad]		
Starting date	21/05/2021		
Institution	University of Granada		
Department / Centre	Department of Genetics / Faculty of Sciences		
Country	Spain	Phone Number	+34 958241543
Keywords	2409.00 - Genetics; 2410.07 - Human genetics; 3201.02 - Clinical genetics; 2409.03 - Population genetics; 2409.91 - Genetic development		

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

Period	Job Title / Name of Employer / Country
2016-2021	Ramón y Cajal Researcher / Department of Genetics (University of Granada) / Spain
2010-2016	Postdoctoral fellow / Institute of Parasitology and Biomedicine ‘López-Neyra’ (CSIC) / Spain
2007-2010	Postdoctoral fellow / Institute of Medical Sciences (University of Aberdeen) / United Kingdom
2006-2007	Postdoctoral fellow / Department of Genetics (University of Granada) / Spain
2002-2006	PhD student / Department of Genetics (University of Granada) / Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
Official Doctorate Program in Genetics and Evolution (Doctor Europeus)	University of Granada / Spain	2006
Bachelor in Biological Sciences	University of Granada / Spain	2001

Part B. CV SUMMARY

Although my scientific career has been relatively multidisciplinary, Genetics has been always a common topic in my research. My PhD was focused on the study of the genetics of gonad development from an evolutionary point of view. During my first postdoc in UK (Institute of Medical Sciences, University of Aberdeen, UK), I studied the molecular mechanisms underlying the eye development in a new model of dysgenic eyes, in order to increase the knowledge about the functionality and evolution of the visual system and its possible pathogenic mechanisms in human diseases. The results of my research were published in prestigious scientific journals and had international media coverage.

I started working in Human Genetics at the Institute of Parasitology and Biomedicine 'López-Neyra' (CSIC, Spain) in 2010. The main research line in which I was involved during my stay at that institution (from 2010 to 2016) was the study of the genetic basis of human autoimmune diseases, achieving a considerably high productivity. I would like to highlight my central role in the coordination and publication of the first large-scale genetic analyses in giant cell arteritis (a systemic vasculitis that may lead to blindness and stroke), with the participation of several international consortia such as VCRC and EUVAS, amongst others. The result of such international effort was the publication of two high impact papers in the prestigious journal *American Journal of Human Genetics* (D1 in ‘Genetics and Heredity’), in which I was first and

corresponding author. I also participated actively in 5 research projects, including a European project (PRECISESAD) within the framework of the 'Innovative Medicines Initiative' (IMI).

In 2016, I was awarded with a ‘Ramón y Cajal’ grant and returned to the Department of Genetics of the University of Granada (Spain), where I obtained an Associate Professor position in May 2021. I initiated a new research line focused on the identification of the molecular causes of non-obstructive azoospermia (one of the most extreme manifestations of male infertility). This line received funding from the Spanish and Andalusian Governments through the National and Regional grants SAF2016-78722-R (from 2017 to 2021), PID2020-120157RB-I00 (from 2021 to 2024), PID2023-152215OB-I00 (from 2024 to 2027), PY20_00212 (from 2021 to 2023), and B-CTS-584-UGR20 (from 2021 to 2023), acting in all of them as PI, and it is being developed in collaboration with IVI-RMA, the largest assisted reproduction group in the world, as well as different researchers and clinicians from both national centres (Hospital ‘Virgen de las Nieves’ in Granada, ‘Complejo Hospitalario’ in Jaén, IDIBELL and Puigvert Foundation in Barcelona, Ovoclinic, and Institute Bernabeu) as well as international centres (IPATIMUP ‘Institute of Pathology and Molecular Immunology’ of the University of Porto in Portugal, ‘Instituto Nacional de Saúde Doutor Ricardo Jorge’ of Lisbon in Portugal, Humanitas Research Hospital in Milan, Radboud UMC in Nijmegen, Karolinska Institute in Stockholm, and the ‘Wellcome Sanger Institute’ in Cambridge). This big collaborative effort allowed us to conduct the first well-powered genome-wide association study of severe spermatogenic failure in a population of European descent, which results were published in different journals such as Human Reproduction and Communications Biology.

Overall, I have contributed so far to the publication of **82 JCR articles** (**35 in the last 5 years**) with an **average impact factor** of **5.383** (**6.452 in the last 5 years**), having received **2,798 citations** (**1,720 in the last 5 years**) with an **h-index = 28** (**22 in the last 5 years**) and an **i10 index = 60** (**43 in the last 5 years**). I have also participated in **82 congresses** (53 of them being international and **30 as oral presentations**), I have been actively involved in **15 research projects** (including the European project PRECISESAD in the framework of the Innovative Medicines Initiative, IMI), acting as **Principal Investigator in 5** of them (3 within the Spanish State Plan). Regarding the mentoring experience, I have supervised 64 student studies in total, including **2 PhD Theses** (2 more ongoing), **1 Juan de la Cierva postdoctoral fellowship**, **18 Master Theses**, 24 Final Degree Projects, 3 Erasmus+ grants, 2 Erasmus+ KA107 grants, 2 ‘Becas de Colaboración en Departamentos Universitarios’ fellows (from the Spanish Ministry of Education and Professional Training), and 4 ‘Becas de Iniciación a la Investigación’ fellows (from the "Plan Propio" program of the University of Granada), amongst others.

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**. Cerván-Martín M; González-Muñoz S; Guzmán-Jiménez A; et al. (15/15). 2024. Changes in environmental exposures over decades may influence the genetic architecture of severe spermatogenic failure. Hum Reprod. 39(3):612-622 (DOI: 10.1093/humrep/deae007). IF: 6.400 (D1).

2 **Scientific paper**. Ortiz-Fernández L; Carmona EG; Kerick M; et al. (5/25) 2023. Identification of new risk loci shared across systemic vasculitides points towards potential target genes for drug repurposing. Ann Rheum Dis. 82(6):837-847. IF: 20.300 (D1).

3 **Scientific paper**. Cerván-Martín M; Bossini-Castillo L; Rivera-Egea R; et al. (46/46) (AC) Immune and spermatogenesis-related loci are involved in the development of extreme patterns of male infertility. Comm Biol. 2022; 5:1220. IF: 5.900 (Q1).

4 **Scientific paper**. Cerván-Martín M; Suazo-Sánchez MI; Rivera-Egea R; et al. (29/29) 2020. Intronic variation of the SOHLH2 gene confers risk to male reproductive impairment. Fertil Steril. 114:398-406. IF: 7.329 (D1).

5 **Scientific paper**. López-Mejías*; Carmona FD*; Genre F; et al. (1/37) 2019. Identification of a 3'-untranslated genetic variant of RARB associated with carotid intima-media

thickness in rheumatoid arthritis: a genome-wide association study. Arthritis Rheumatol. 7:351-360. IF: 9.586 (D1). *I shared first authorship.

6 **Scientific paper**. López-Isac E; Acosta-Herrera M; Kerick M; et al. (14/44) 2019. GWAS for systemic sclerosis identifies multiple risk loci and highlights fibrotic and vasculopathy pathways. Nat Commun. 10:4955. IF: 12.121 (D1).

7 **Scientific paper**. Martorana D; Márquez A; Carmona FD; et al. (3/29) 2018. A large-scale genetic analysis reveals an autoimmune origin of idiopathic retroperitoneal fibrosis. J Allergy Clin Immunol. 142: 1662-1665. IF: 14.110 (D1).

8 **Scientific paper**. Ortiz-Fernández L; Carmona FD; López-Mejias R; et al. (2/9) 2018. A cross-phenotype analysis of Immunochip data identifies KDM4C as a relevant locus for the development of systemic vasculitis. Ann Rheum Dis. 77:589-595. IF: 14.299 (D1).

9 **Scientific paper**. Carmona FD; Vaglio A; Mackie SL; et al. (1/53) (AC) 2017. A genome-wide association study identifies risk alleles in plasminogen and P4HA2 associated with giant cell arteritis. Am J Hum Genet. 100:64-74. IF: 8.855 (D1).

10 **Scientific paper**. Carmona FD; Mackie S; Martin JE; et al. (1/73) (AC) 2015. A large-scale genetic analysis reveals a strong contribution of HLA class II region to giant cell arteritis susceptibility. Am J Hum Genet. 96:565–580. IF: 10.794 (D1).

C.2. Congresses

	Meetings	*1st author*	*Last author*	*International*	*Oral Presentation*
TOTAL	**82**	**22**	**16**	**53**	**30**
LAST 5 YEARS	**32**	**0**	**16**	**8**	**13**

C.3. Research projects and contracts

1 **Project.** PID2023-152215OB-I00, Descifrando el componente inmunológico de patrones extremos de infertilidad masculina: un enfoque multiómico. Plan Nacional (Ministerio de Ciencia e Innovación). F. David Carmona López. (Centro de Investigación Biomédica, University of Granada). 01/09/2024-31/08/2027. 275.000 €. **Principal investigator**.

2 **Project.** C-CTS-273-UGR23, Atlas transcripcional de la infertilidad masculina debida a alteraciones de la espermatogenesis. Proyectos I+D+i del Programa Operativo FEDER 2023. Bossini Castillo L. (Centro de Investigación Biomédica, University of Granada). 01/01/2024-31/12/2026. 15.000 €. Team member.

3 **Project.** PID2020-120157RB-I00, Caracterización molecular de las entidades subclínicas de la infertilidad masculina. Plan Nacional (Ministerio de Ciencia e Innovación). F. David Carmona López. (Centro de Investigación Biomédica, University of Granada). 01/09/2021-31/08/2024. 217.800 €. **Principal investigator**.

4 **Project.** PY20_00212, Estudio de las causas genéticas de la infertilidad masculina debida a fallo espermatogénico. Proyectos de I+D+i destinados a las universidades y entidades públicas de investigación calificadas como agentes del Sistema Andaluz del Conocimiento, en el ámbito del Plan Andaluz de Investigación, Desarrollo e Innovación (PAIDI 2020). F. David Carmona López. (Centro de Investigación Biomédica, University of Granada). 04/10/2021-30/06/2023. 75.000 €. **Principal investigator**.

5 **Project.** B-CTS-584-UGR20, Bases genéticas y moleculares del fallo espermatogénico severo (ESPERMATONÓMICA). Proyectos I+D+i del Programa Operativo FEDER 2020. F. David Carmona López. (Centro de Investigación Biomédica, University of Granada). 01/07/2021-30/06/2023. 30.000 €. **Principal investigator**.

6 **Project.** PI0450-2019, Nuevas terapias biológicas y nutraceúticas para la enfermedad cardiovascular. Panel de biomarcadores para tratamiento. Convocatoria de subvenciones para la financiación de la Investigación, Desarrollo e Innovación Biomédica y en Ciencias de la Salud en Andalucía. Sonia Morales Santana. (FUNDACIÓN PARA LA INVESTIGACIÓN BIOSANITARIA DE ANDALUCIA ORIENTAL - ALEJANDRO OTERO). 01/01/2020-31/12/2022. 64.634,94 €. Team member.

7 **Project.** CV20-77708, Análisis multi-ómico en pacientes con CoViD-19 como predictor de la evolución de la enfermedad y su respuesta al tratamiento. Convocatoria de subvenciones para la financiación de proyectos de investigación sobre el SARS-COV-2 y la enfermedad COVID-19. Junta de Andalucía, Consejería de Economía, Conocimiento, Empresas y Universidad. Julio J. Gálvez Peralta. (FUNDACIÓN PARA LA INVESTIGACIÓN

BIOSANITARIA DE ANDALUCIA ORIENTAL - ALEJANDRO OTERO). 09/09/2020-08/09/2021. 100.000 €. Team member.

8 **Project.** SAF2016-78722, Identification and characterization of the molecular mechanisms underlying non-obstructive azoospermia by integrating genomic and transcriptomic data. Plan Nacional (MINECO). F. David Carmona López. (Centro de Investigación Biomédica, University of Granada.). 01/01/2017-31/12/2020. 124.500 €. **Principal investigator**.

9 **Project.** 115565, Molecular reclassification to find clinically useful biomarkers for systemic autoimmune diseases (PRECISESAD). Innovative Medicines Initiative (IMI) from the European Commission (FP7/2007-2013) and European Federation of Pharmaceutical Industries and Associations (EFPIA). Marta Alarcón Riquelme. (Centre for Genomics and Oncological Research (GENYO)). 01/02/2014-01/01/2019. 22.700.000 €. Team member.

10 **Project.** 115142, BeTheCure for Rheumatoid Arthritis (BTCure). Innovative Medicines Initiative (IMI) from the European Commission (FP7/2007-2013) and European Federation of Pharmaceutical Industries and Associations (EFPIA). Lars Klareskog. (Instituto de Parasitología y Biomedicina López-Neyra). 01/04/2011-31/03/2017. 39.371.092 €. Team member.

11 **Project.** BIO-1395, Identificación de nuevos factores genéticos comunes en enfermedades autoinmunes sistémicas mediante el análisis conjunto de estudios de asociación del genoma completo (meta-GWAS). Proyecto de Excelencia de la Consejería de Innovación, Ciencia y Tecnología de la Junta de Andalucía. Javier Martín Ibáñez. (Instituto de Parasitología y Biomedicina López-Neyra (CSIC)). 01/01/2014-01/01/2017. 168.450 €. Team member.

12 **Project.** RD12/0009/0004, Red de Investigación en Inflamación y Enfermedades Reumáticas (RIER). RETIC Programme (MINECO). Javier Martín Ibáñez. (Instituto de Parasitología y Biomedicina López-Neyra (CSIC)). 01/01/2013-01/01/2017. 67.275 €. Team member.

13 **Project.** SAF2012-34435, Aplicación de estrategias post-GWAS en la identificación del componente genético de la esclerodermia. Plan Nacional (MINECO). Javier Martín Ibáñez. (Instituto de Parasitología y Biomedicina López-Neyra (CSIC)). 01/01/2013-01/01/2016. 204.000 €. Team member.

14 **Project.** RD08/0075/0011, Red de Investigación en Inflamación y Enfermedades Reumáticas (RIER). RETIC Programme (MINECO). Javier Martín Ibáñez. (Instituto de Parasitología y Biomedicina López-Neyra (CSIC)). 01/01/2009-31/12/2012. 93.000 €. Team member.

15 **Project.** BB/E015840/1, Genetic control of epithelial cell migration and wound healing physiology. BBSRC grant. (UK) J. Martin Collinson. (Institute of Medical Sciences (IMS), University of Aberdeen, UK). 01/02/2007-01/05/2010. £643.000. Team member.

16 **Project.** CGL2008-00928, Genetic and environmental elements controlling gonadal changes in seasonally breeding mammals. Plan Nacional (MINECO). Rafael Jiménez Medina. (Faculty of Sciences, University of Granada). 01/10/2008-30/09/2011. 85.000 €. Team member.

C.4. Other merits.

Currently, I am member of the Excellence Unit AD®ULT of the Biomedical Research Centre (CIBM, Granada, Spain), the Health Research Institute of Granada (ibs.GRANADA), the Institute of Biotechnology of the University of Granada, and the State Agency for Evaluation and Prospective (ANEP) expert base in the area of Biomedicine.

I have been granted recognition for 3 six-year periods of research [sexenios de investigación].