

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	M ^a MERCEDES		
Family name	VALERA CÓRDOBA		
Gender (*)	Female	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	mvalera@us.es	URL Web	
	https://investigacion.us.es/sisius/sis_showpub.php?idpers=9054		
Open Researcher and Contributor ID (ORCID) (*)	0000-0003-1742-550X		

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	10-11-2016		
Institution	University of Seville		
Department/Center	Agronomy		
Country	Seville	Teleph. number	954.48.77.48
Key words	Equine, Fertility hose, Genetic Improvement, Horse, Quantitative Genetics		

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

Period	Position/Institution/Country/Interruption cause
06/11/2009 - 09/11/2016	Senior Lecturer in Animal Production
30/09/2003 - 05/11/2009	Associate Professor of Animal Production

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Veterinary	Universidad de Córdoba	1990
PhD in Veterinary	Universidad de Córdoba	1997

(Include all the necessary rows)

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

The Line of Research that has marked my career is Equine Genetic Production and Improvement. Within this line I have worked on: genetic characterization of populations; Design and management of improvement programs; Design of morphological and functional performance controls; New genetic assessment methodologies (random regression, Bayesian, Thurstonian); Design of germplasm banks; Detection of animals with chromosomal alterations through cytogenetic and molecular analyses; Search for molecular markers associated with equine performance, meat production, behavior, morphology and equine diseases.

From a quantitative point of view, my scientific production can be summarized in the following items:

- 19 Doctoral Theses supervised
- 139 JCR publications
- 144 Complete books and 51 book chapters
- 247 communications at international conferences
- 118 communications at national conferences
- 48 invited lectures
- 20 Research Projects
- 102 Research Contracts (contracts arts. 68/83 LOU)
- Stays: 10 months in foreign research centers and 9.5 months in national research centers
- Organizing committee of 15 conferences.
- Technical Advisor in different Committees of the Ministry of Agriculture, Fisheries and Food.
- Technical director of 7 Equine Breeding Programs
- Director of the AGR-273 Research Group (Meragem)
- President of the Spanish Society of Equine Technology (SEDE)
- Member of the Spanish Society of Zooethnologists (SEZ)

General quality indicators of scientific production

- 4 research six-year periods
- 1 six-year transfer period
- Number of Theses supervised: 19 Doctoral Theses defended (2 Theses pending defense)
- Number of total citations: 2.451 (Scopus), 4.292 (Google Scholar) 3.400 (researchgate)
- Average appointment/year in the last 5 years: 251 (Scopus)
- 139 JCR; h-index: 25 (Scopus), 32 (Google Scholar), 28 (researchgate)

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

139 JCR publications (82 in the last 10 years); **144 Complete books** and **51 book chapters**.
Only the 20 publications O1 most related to the research project are referenced (years: 2020-2024).

1. Laseca, N.; ...; **Valera, M.**; Demyda-Peyrás, S.; Molina, A. 2024. Reproductive traits in Pura Raza Española mares manifest inbreeding depression from low levels of homozygosity. JOURNAL ANIMAL BREEDING AND GENETICS, 1-12 (2024). DOI: [10.1111/jbg.12856](https://doi.org/10.1111/jbg.12856)
2. Perdomo-González, D.I.; ...; **Valera, M.**, 2024. Designing an early selection morphological traits index for mare reproductive efficiency in Pura Raza Española horse. JOURNAL OF ANIMAL SCIENCE 102: 1-12. DOI: [10.1093/jas/skad409](https://doi.org/10.1093/jas/skad409)
3. Perdomo-González, D.; ...; **Valera, M.**, 2023. Transmission ratio distortion detection by neutral genetic markers in the Pura Raza Española horse breed. ANIMAL, 2023, 17: 101012. doi: [10.1016/j.animal.2023.101012](https://doi.org/10.1016/j.animal.2023.101012)
4. Laseca, N.; Cánovas, A.; **Valera, M.**; ...; Molina, A. 2023. Genomic screening of allelic and genotypic transmission ratio distortion in horse. PLOS ONE, 18: e0289066. DOI: [10.1371/journal.pone.0289066](https://doi.org/10.1371/journal.pone.0289066)
5. Perdomo-González, D.I.; ...; **Valera, M.**, 2023. Quantitative analysis of parent-of-origin effect in reproductive and morphological selection criteria in the Pura Raza Española horse. JOURNAL ANIMAL BREEDING AND GENETICS, 140:596–606. DOI: [10.1111/jbg.12811](https://doi.org/10.1111/jbg.12811)
6. Sánchez-Guerrero, M.J.; ...; **Valera, M.**, 2023. The Relevance of the Expected Value of the Proportion of Arabian Genes in Genetic Evaluations for Eventing Competitions. ANIMALS, 13, 1973. DOI: [10.3390/ani13121973](https://doi.org/10.3390/ani13121973)
7. Demyda-Peyrás, S.; ...; **Valera, M.**, 2023. Prevalence of sex-related chromosomal abnormalities in a large cohort of Spanish Purebred Horses. ANIMALS, 13(3), 539. DOI: [10.3390/ani13030539](https://doi.org/10.3390/ani13030539)
8. Perdomo-González, D.; Laseca, N.; Demyda-Peyrás, S.; Valera, M. et al. 2022. Fine-tuning genomic and pedigree inbreeding rates in equine population with a deep and reliable stud book: the case of The Pura Raza Española horse. JOURNAL OF ANIMAL SCIENCE AND BIOTECHNOLOGY 7;13(1):127. DOI: [10.1186/s40104-022-00781-5](https://doi.org/10.1186/s40104-022-00781-5)
9. Laseca, N.; Molina, A.; Ramón, M.; **Valera, M.**; et al. 2022. Fine-Scale Analysis of Runs of Homozygosity Islands Affecting Fertility in Mares. FRONTIERS IN VETERINARY SCIENCE, 9, 754028. DOI: [10.3389/fvets.2022.754028](https://doi.org/10.3389/fvets.2022.754028)
10. Bartolomé, E.; **Valera, M.**; et al. 2022. Effects of selection on breed contribution in the Caballo de Deporte Español. ANIMALS, 12, 1635. DOI: [10.3390/ani12131635](https://doi.org/10.3390/ani12131635)
11. Perdomo-González, ...; **Valera, M.**, 2022. Genetic inbreeding depression load for fertility traits in Pura Raza Española mares. JOURNAL OF ANIMAL SCIENCE, 99(12): 1–10. skab316. doi: [10.1093/jas/skab316](https://doi.org/10.1093/jas/skab316)
12. Laseca, N.; Molina, A.; **Valera, M.**; et al. 2022. Copy Number Variation (CNV): A New Genomic Insight in Horses. ANIMALS, 12, 1435. DOI: [10.3390/ani12111435](https://doi.org/10.3390/ani12111435)
13. Laseca, N.; Demyda-Peyrás, S.; **Valera, M.**; et al. 2022. A genome-wide association study of mare fertility in the Pura Raza Español horse. ANIMAL, 16: 100476. doi: [10.1016/j.animal.2022.100476](https://doi.org/10.1016/j.animal.2022.100476)
14. Poyato-Bonilla, J.; ...; **Valera, M.**, 2021. 500 years of breeding in the Carthusian Strain of Pura Raza Español horse: An evolutionary analysis using genealogical and genomic data. JOURNAL OF ANIMAL BREEDING AND GENETICS, 139(1): 84-99. DOI: [10.1111/jbg.12641](https://doi.org/10.1111/jbg.12641)
15. Perdomo-González, D.I.; ...; **Valera, M.**, 2021. Genetic inbreeding depression load for fertility traits in Pura Raza Española mares. JOURNAL OF ANIMAL SCIENCE, 99(12): 1–10. skab316. DOI: [10.1093/jas/skab316](https://doi.org/10.1093/jas/skab316)

16. Poyato-Bonilla, J.;...; **Valera, M.** 2021. Genetic parameters for canalisation analysis of morphological traits in the Pura Raza Español horse. JOURNAL ANIMAL BREEDING AND GENETICS, 138(4): 482-490. DOI: [10.1111/jbg.12537](https://doi.org/10.1111/jbg.12537)
17. Pirosanto, Y.; Laseca, N.; **Valera, M.** et al. 2021. Screening and detection of chromosomal copy number alterations in the domestic horse using SNP-array genotyping data. ANIMAL GENETICS, 52(4): 431–439. DOI: [10.1111/age.13077](https://doi.org/10.1111/age.13077)
18. Poyato-Bonilla, J.;...; **Valera, M.** 2020. Genetic inbreeding depression load in morphological traits and defects in the Pura Raza Española horse. GENETICS SELECTION EVOLUTION, 52, 62. DOI: [10.1186/s12711-020-00582-2](https://doi.org/10.1186/s12711-020-00582-2)
19. Perdomo-González, D.I.; ...; **Valera, M.** 2020. Genetic Structure Analysis of the Pura Raza Español Horse Population through Partial Inbreeding Coefficient Estimation. ANIMALS, 2020: 10, 1360. DOI: [10.3390/ani10081360](https://doi.org/10.3390/ani10081360)
20. Gómez, M.D.; ...; **Valera, M.** 2020. Phenotypic and genetic analysis of reproductive traits in Spanish horse breeds with different breeding purposes. ANIMAL, 14(7): 1351-1361. DOI: [10.1017/S1751731120000087](https://doi.org/10.1017/S1751731120000087)

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

247 communications at international conferences and 118 communications at national conferences
Only the 5 communications are referenced to congress, related to the project.

1. Laseca, N.; Molina, A.; **Valera, M.**; Demyda-Peyrás, S. 2024. Variations in the genomic landscape associated to the onset of inbreeding depression in fertility parameters of Pura Raza Español horses. 14th International Havemeyer Foundation Horse Genome Workshop. Havemeyer Foundation
2. Peña, Z.; **Valera M.**; et al. 2023. Inbreeding affects the freezing ability in sperm samples of Pura Raza Español stallions. 74th Annual Meeting of the EAAP Lyon (Francia). Oral presentation
3. Laseca, N.; ...; **Valera M.**; Molina, A. 2021. Screening for genomic association with fertility in PRE horses using high density genotyping data. 72th Annual Meeting of the EAAP. Davos (Switzerland). Oral presentation.
4. Pirosanto, Y., **Valera, M.**, et al. 2020. Sperm quality of Pure Spanish stallions is affected by inbreeding coefficient and age. Reproduction. Annual Conference of the International Embryo Technology Society. New York. Oral presentation.
5. Poyato-Bonilla, J.; ...; **Valera M.** 2018. Characterisation of reproductive parameters in different horse breeds. 69th Annual Meeting of the EAAP. Dubrovnik, Croatia. Oral presentation.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

20 Research Projects. Only projects executed in the last 10 years are specified.

1. Ontology of the effects of inbreeding on seminal quality and freezability in the equine species: genetic evaluation of the potential for inbreeding depression and analysis of the distribution of genomic homozygosity (ROH) fragments. FEDER 20 REF. 1380999-R. Programa Operativo FEDER Andalucía 2014-2020. Period: 2021-2022. IP: **M. Valera**; A. Molina Amount: 40.038,54 €
2. Genetic analysis of infertility and subfertility in horses: quantitative, cytogenetic-molecular and whole-genome association analysis in Pura Raza Española Mares. AGL2017-84217-P. Ministerio de Economía, Industria y Competitividad. Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia. Subprograma estatal de generación de conocimiento. Period: 2018 a 2020 IPs: **M. Valera** y A. Molina Amount: 157.300 €
3. Determination of genetic factors associated with infertility of chromosomal origin in the equine species. PICT-2016-0359 – FONCYT. Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT). Fondo para la investigación científica y tecnológica (FONCYT). Ministerio de Ciencia, Tecnología e Innovación Productiva (Argentina). Period: 2017-2020. IP: S. Demyda-Peyrás Amount: 43.000,0 €
4. Prevalence and identification of risk factors and early markers of emerging health problems in the Pura Raza Española Horse (PRE_salud). AGR-5963. Proyectos Motrices y de Innovación (Orden 11/12/2007. Convocatoria 2010). Secretaría General de Universidades, Investigación y Tecnología. Proyectos de Investigación de Excelencia de las Universidades y Organismos de Investigación de Andalucía. Period: 2012-2015 I.P. J.L. López Rivero. Amount: 153.400,00 €

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

102 Research Contracts (contracts arts. 68/83 LOU). Only contracts executed in the last years are specified.

1. Genetic assessment of Pura Raza Española horses for functional and morphological characters within the framework of the Breed Improvement Program (2023-2027)” PRJ202304988. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE) Period: 14/11/2023 - 13/11/2027. IP: **M. Valera**. Amount: 70.180,00 €
2. Development of an economical medium-density chip for filiation, disease diagnosis, detection of characters of economic importance, genomic selection in the Pura Raza Española horse and development of digital tools to facilitate its use (GO EQUIGENOM). PRJ202304941. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE) Period: 02/10/2023 - 01/03/2025 IP: **M. Valera**. Amount: 71.353,70 €
3. Genetic management of the breeding program of the Anglo-Arabian equine breed: genetic assessment of the breed's breeding stock for functional performance in sports competitions. PRJ202304692 Financing entity: Asociación Española de Criadores de Caballos Anglo-Árabes (AECCAá) Period: 01/01/2023 - 31/12/2025. IP: **M. Valera**. Amount: 21.074,00 €
4. Planning of matings of the iron stud of the bite based on genetic parameters. PRJ202204574. Financing entity: EXPASA Agricultura y ganadería sociedad mercantil estatal, S.A. (EXPASA). Period: 01/09/2022 - 31/08/2025 IP: **M. Valera**. Amount: 10.890,00 €
5. Methodologies for the estimation of genetic parameters and genetic evaluation of Pura Raza Española horse reproducers in Andalusia. PRJ202104248. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE) Period: 01/09/2021 - 30/09/2024 IP: **M. Valera**. Amount: 130.680,00 €
6. Genomic evaluation of Pura Raza Española horse specimens from farms in Castilla La Mancha. PRJ202104357. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE) Period: 01/12/2021-31/03/2024 IP: **M. Valera**. Amount: 28.444,68 €
7. Design and testing of genetic assessment models of behavioral traits in fighting cattle from the Spanish group of wild cattle breeders. PRJ202104061 Financing entity: Agrupación Española de Ganaderos de (AEGRB). Period: 01/01/2021 - 31/12/2025 IP: **M. Valera**. Amount: 8.470,00 €
8. Genetic management of the Pura Raza Menorquina horse breeding program (genetic selection and racial conservation). PRJ202104078. Financing entity: Asociación de Criadores de Propietarios de Raza Menorquina (ACPRMe) Period: 11/03/2021-30/03/2025. IP: **M. Valera**. Amount: 32.670,00 €
9. Genetic management of the Spanish Sport Horse breeding program: estimation of the breeding value of the breed's reproducers. PRJ202104060. Financing entity: Asociación Nacional de Criadores de Caballos de Deporte Español (ANCADES) Period: 01/01/2021-31/12/2025 IPs: **M. Valera** and E. **Bartolomé**. Amount: 66.550,00 €
10. Genomic evaluation of Pura Raza Española horses. PRJ202003947. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE) Period: 01/10/2020-29/09/2026. IP: **M. Valera**. Amount: 57.459,27 €
11. Genetic estimation of the Spanish Trotting horse improvement program. Estimation of genetic parameters and genetic assessment of reproducers for the functional attitude of trotting. PRJ202003868. Financing entity: Asociación de Criadores y Propietarios de Caballos Trotadores (ASTROT). Period: 01/05/2020-30/04/2026 IP: **M. Valera**. Amount: 58.080,00 €
12. Genetic assessment of Pura Raza Española horses for functional and morphological characters within the framework of the breed improvement program. PRJ201903679. Financing entity: Real Asociación Nacional de Criadores de Caballos de Pura Raza Española (ANCCE). Period: 01/11/2019-31/10/2023 IP: **M. Valera**. Amount: 79.870,00 €