CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

CV date	18/12/2025

First name	María América
Family name	Davis López de Carrizosa

A.1. Current position

Position	Profesor Titular de Universidad *(Senior Lecturer)*		
Initial date	24/04/2024		
Institution	Universidad de Sevilla		
Department/Center	Physiology	Faculty of Biology	
Country	SPAIN		
Key words	Aging, skeletal muscle, degeneration, sarcopenia, muscle fiber, satellite cells, motorneuron, myogenesis.		

A.2. Previous positions (research activity interuptions, art. 13.2.b))

Period	Position/Institution/Country/Interruption cause
2019 - 2024	Profesor Contratado Doctor / Universidad de Sevilla /España
2017 - 2019	Profesor Contratado Doctor Int. / Universidad de Sevilla / España / Periodo de interrupción de 6 meses en 2017 por baja maternal
2011 - 2017	Profesor Ayudante Doctor / Universidad de Sevilla / España / Periodo de interrupción de 6 meses en 2015 por baja maternal
2010 - 2011	Profesor Ayudante / Universidad de Sevilla / España
1997-2000	Becaria FPI del Instituto de Salud Carlos III, Ministerio de Sanidad y Consumo / Universidad de Sevilla / España

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor en programa oficial de posgrado de Fisiología y Neurociencia	Universidad de Sevilla	2010
Licenciado en Ciencias Biológicas	Universidad de Sevilla	2003

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

I **graduated in Biology in 2003 at the University of Seville (US)**. In September 2003 I obtained a contract as researcher at the laboratory of Professor S. Highstein in the Department of Otolaryngology at the University of Washington in St. Louis, MO, USA. There, I worked for 14 months conducting electrophysiological experiments in the oculomotor system (OS) of the squirrel monkey. We studied plastic changes on this system after motor learning. The results obtained there were presented in my master thesis, as posters in several international meetings and in an article published in the J. Neurophysiology. Back in Spain, in 2006 I got a **FPI predoctoral fellowship from the Instituto Carlos III and the Ministry of Health and Consumers affairs**, to work in the research group led by Dr. Ángel Pastor, at the Department of Physiology at the US. We studied plasticity under lesion and the effects of neurotrophins in the OS of different animal models. As part of my PhD studies, I made **two 3-months predoctoral stays** at the laboratory of Dr. Hans Straka at the **Université Paris Descartes,**

Paris, FRANCE where we worked and studied electrophysiological properties of the OS in the *Xenopus leavis* semi-intact preparation. In **2010** I defended my **Doctoral and obtained the European Doctorate** and the **Extraordinary Doctorate Award**. The results of my predoctoral research were published in 5 research articles and were presented in 28 national and international conferences. During the years of my PhD studies, the group kept collaborations with several other labs, and I contributed to this with different short-term visits to the laboratory of Dr. Straka and Dr. Blumer in Munich and Wien, respectively. As a result of the collaboration with Dr. Blumer, 3 articles were published. These have contributed to the comprehension of the role of the palisade endings of the extraocular muscles. In October 2010, already as a PhD, I obtained a position as Teaching Assistant at the US in Spain, in 2011 I became Assistant Professor and in 2019 I obtained the permanent position as Associate Professor. As part of the group led by Dr. Pastor, I have participated as researcher in 16 research projects all of them funded through competitive public calls and published a total of 15 peer-review articles in some of the best journals in the category of Neurosciences. Moreover, I have contributed to the formation of several predoctoral students to whom I taught electrophysiology-related techniques and protocols for cell culture.

In 2019, I received an **EMBO short-term fellowship** to carry out a research stay at the Department Endocrinology, Diabetes and Nutrition (EDIN) at the ***Université Catholique de Louvain* (UCL) in Belgium**. There, I worked in the group led by Dr. Sonia Brichard. Since 2019 we have kept a close collaboration that led me to make another two visits of 6 and 5 months in 2020/2021 and 2021/2022, respectively. The visit in 20/21 was financed by the *"Plan Propio of the US"* and the one in 21/22 by the International Excellence Scholarship from the Wallonie-Bruxelles Program. As a result of this collaboration, we have published 2 reviews and 6 research articles in high impact factor journals. These articles were related with two different projects carried out by the EDIN group. The first addressing the **physiopathology of Duchenne's muscular dystrophy** and analysing the effects of new possible therapies for this devastating disease. The second, tackling a worldwide problem; **obesity and aging**. Within the frame of the last project, we have demonstrated that some drugs, like AdipoRon, which is an adiponectin agonist, reduces some of the physiological harmful effects of obesity and aging. Finally, during my 16 months stay at EDIN in Brussels, I also contributed to the **formation of two predoctoral students**. They defended their Thesis in 2024. In summary, this postdoctoral experience as an **Invited Professor at the UCL** has granted me the opportunity to acquire more experience working on different models of muscle-related pathologies and to gain autonomy and confidence to start leading research projects. Currently, the collaboration with the UCL group is still active.

My commitment to **science popularization** is reflected in my active participation in initiatives such as the *Women in Neuroscience* and *Pit for Science* conferences. I also contribute to disseminating knowledge to the public through social media platforms like Instagram. I would like to emphasize **the contribution of my research to society** through the advancement of brain and skeletal muscle physiology knowledge, not only in healthy state but also during aging. This knowledge has a potential impact on the development of new therapies in a world-wide aged population.

Finally, to sum up, my scientific and academic career is supported by 3 six-year Research periods, 2 research awards, 3 five-year Teaching merit periods, in addition to having obtained the Mention of Excellence in the *Docentia* report of the US.

Part C. RELEVANT MERITS *(sorted by typology)*

General indicators of the quality of scientific publications:

- Peer-review articles (from 2007-2025): 22
- Citations (WOS): 418 (at 01/12/2025)
- h index: 13
- Participation in research projects funded with by public entities: 14

C.1. Publications *(last 5 years)* **-** *AC: corresponding author. (nº x / nº y): position / total authors.*

1 Scientific paper. Dubuisson, Nicolas; Versele, Romain; (3/9) **Davis-Lopez de Carrizosa, Maria A**; et al; Abou-Samra, Michel. 2023. The Adiponectin Receptor Agonist, ALY688: A Promising Therapeutic for Fibrosis in the Dystrophic Muscle.Cells. M D P I AG. 12-16. ISSN **2073-4409. SCOPUS (8), WOS (8) https://doi.org/10.3390/cells12162101**

2 Scientific paper. Abou-Samra, Michel; Dubuisson, Nicolas; Marino, Alice; et al; Horman, Sandrine; (6/10) **Davis-López de Carrizosa, Maria A.** 2024. Striking Cardioprotective Effects of an Adiponectin Receptor Agonist in an Aged Mouse Model of Duchenne Muscular Dystrophy. ANTIOXIDANTS. MDPI; MDPI AG. 13-12. ISSN 2076-3921. SCOPUS (0), WOS(0) https://doi.org/10.3390/antiox13121551

3 Scientific paper. Selvais, Camille M.; (2/10) **Davis-López de Carrizosa, María A.**; Nachit, Maxime; et al; Abou-Samra, Michel. 2023. AdipoRon enhances healthspan in middle-aged obese mice: striking alleviation of myosteatosis and muscle degenerative markers. JOURNAL OF CACHEXIA SARCOPENIA AND MUSCLE. WILEY. 14-1, pp.464-478. ISSN 2190-5991, ISSN 2190-6009. SCOPUS (27), WOS (28) https://doi.org/10.1002/jcsm.13148

4 Scientific paper. Selvais, Camille M.; De Cock, Laura L.; Brichard, Sonia M.; (4/4) **Davis-López de Carrizosa, María A. (AC).** 2022. Fiber type and subcellular-specific analysis of lipid droplet content in skeletal muscle. JOVE-JOURNAL OF VISUALIZED EXPERIMENTS. JOURNAL OF VISUALIZED EXPERIMENTS. 2022-184. ISSN 1940-087X. SCOPUS (4), WOS (3) https://doi.org/10.3791/63718

5 Bibliographic review. Dubuisson, Nicolas; Versele, Romain; Planchon, Chloe; Selvais, Camille M; Noel, Laurence; Abou-Samra, Michel; (7/7) **Davis-Lopez de Carrizosa, Maria A (AC).** 2022. Histological Methods to Assess Skeletal Muscle Degeneration and Regeneration in Duchenne Muscular Dystrophy.INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. MDPI AG. 23-24. ISSN 1422-0067. SCOPUS (20), WOS (17) https://doi.org/10.3390/ijms232416080

6 Scientific paper. Dubuisson, Nicolas; (2*/8) **Davis-López de Carrizosa, María A.;** Versele, Romain; Selvais, Camille M.; Noel, Laurence; Van den Bergh, P. Y. D.; Brichard, Sonia M.; Abou-Samra, Michel. 2022. Inhibiting the inflammasome with MCC950 counteracts muscle pyroptosis and improves Duchenne muscular dystrophy. FRONTIERS IN IMMUNOLOGY. FRONTIERS MEDIA SA. 13. ISSN 1664-3224. SCOPUS (13), WOS (12) https://doi.org/10.3389/fimmu.2022.1049076 ** Co-first author*

7 Bibliographic review. Dubuisson, Nicolas; Versele, Romain; (3/6) **Davis-López de Carrizosa, María A.**; Selvais, Camille M.; Brichard, Sonia M.; Abou-Samra, Michel. 2021. Walking down skeletal muscle lane: from inflammasome to disease. Cells. M D P I AG. 10-11. ISSN 2073-4409. SCOPUS (18), WOS (18) https://doi.org/10.3390/cells10113023

8 Scientific paper. Carrero-Rojas, G; Benitez-Temino, B; Pastor, AM; (4/4) **Davis-López de Carrizosa, MA (AC).** 2020. Muscle Progenitors Derived from Extraocular Muscles Express Higher Levels of Neurotrophins and their Receptors than other Cranial and Limb Muscles. Cells. M D P I AG. 9-3. ISSN 2073-4409. SCOPUS (14), WOS (15) https://doi.org/10.3390/cells9030747

C.2. Congress *(last 5 years)*

- Póster. G. Carrero-Rojas; B. Benitez-Temino; **MA. Davis-López de Carrizosa**; AM. Pastor Loro. *Comparison of the myogenicity and expression of neurotrophins in satellite cells derived from extraocular, facial, tongue and limb muscles.* 18th National Meeting of the Spanish Society of Neuroscience. Spanish Society of Neuroscience. 2019. España.
- Póster. J. Streicher; **MA. Davis-López de Carrizosa**; RR. de la Cruz; AM. Pastor. *Palisade Endings in Cat Extraocular Muscles Develop Postnatally in a Heterochronic Sequence.* 19th Congress of the International Federation of Associations of Anatomists. International Federation of Associations of Anatomists. 2019. Reino Unido.
- Póster. G. Carrero-Rojas; B. Benítez-Temiño; **MA. Davis-López de Carrizosa**; AM. Pastor Loro. *Comparison of the myogenicity and expression of neurotrophins in satellite*

cells derived from extraocular, facial, tongue and limb muscles. 2nd Barcelona Young Neuroscientists Symposium. Brain&Beer Barcelona. 2018. España.

- Póster. G. Carrero-Rojas; **MA. Davis-López de Carrizosa**; AM. Pastor Loro. *Comparison of the myogenicity and expression of neurotrophins in satellite cells derived from extraocular, facial, tongue and limb muscles.* 20th Congress of Federation of European Neuroscience (FENS). FENS Forum. 2018. Austria.
- Póster. Morgenstern L, Baena-López D, **Davis-López de Carrizosa MA,** Benítez-Temiño B, Morcuende S. Efecto del alcaloide boldina en la neurogénesis hipocampal en ratones jóvenes y envejecidos. IV Anual SpaNN Symposium 2025. Cádiz, España.
- Póster. Morcuende S, Baena-López S, Morgenstern L, Matarredona ER, **Davis-López de Carrizosa MA**, Benítez-Temiño B. Neuroprotective effects of the alkaloid boldine in aged mice. INNOVA: Ageing and Well-being. Ulysseus European University. September 2025, Niza, Francia.
- Póster. **Davis-López de Carrizosa MA**, Valenzuela González EJ, Baena-López S, Benítez-Temiño B, Morcuende SR. Nutritional supplementation with boldine to promote healthy aging of the motor system. INNOVA: Ageing and Well-being. Ulysseus European University. September 2025, Niza, Francia.
- Póster. Baena-López D, Morgenstern L, Benítez-Temiño B, **Davis López de Carrizosa MA**, Matarredona ER, Morcuende S. Neuroprotective and myoprotective effects of the alkaloid boldine in adult and aged mice. Sociedad Española de Neurociencia (SENC) 2025. Las Palmas de Gran Canaria, España.

C.3. Research projects *(last 10 years)*

1 Project. P20_00529, Plasticidad del sistema oculomotor en respuesta a la lesión: papel de los factores neurotróficos y de las células progenitoras. Consejería de Economía, Conocimiento, Empresas y Universidad. Pastor Loro, Ángel Manuel. 05/10/2021-30/06/2023. 65.000 €. **Research Team.**
2 Project. PGC2018-094654-B-I00, Lesión y Regeneración: una Evaluación Neurotrófica de la Función y Plasticidad Oculomotora. Ministerio de Ciencia, Innovación y Universidades. Pastor Loro, Ángel Manuel. 01/01/2019-30/09/2022. 145.200 €. **Research Team.**
3 Project. BFU2015-64515-P, Estrategias Reparativas en el Snc Tras la Lesión: Administración del Factor de Crecimiento del Endotelio Vascular (Vegf) e Implante de Progenitores Neurales. Ministerio de Economía y Competitividad. Pastor Loro, Ángel Manuel. 01/01/2016-31/07/2019. 196.746 €. **Research Team.**
4 Project. P10-CVI-6053, Plasticidad Sinaptotrófica en el Sistema Oculomotor. Junta de Andalucía - Consejería de Innovación, Ciencia y Empresas. Pastor Loro, Ángel Manuel. 15/03/2011-30/04/2016. 294.527 €. **Research Team.**
5 Project. BFU2012-33975, Mecanismos Involucrados en la Recuperación de las Propiedades Fisiológicas de Motoneuronas e Interneuronas Lesionadas Tras el Tratamiento con Factores Neurotróficos y el Impla. Ministerio de Economía y Competitividad. Pastor Loro, Ángel Manuel. 01/01/2013-31/12/2015. 128.700 € **Research Team.**