

CURRICULUM VITAE ABREVIADO (CVA)
Part A. PERSONAL INFORMATION

First name	Antonio		
Family name	Rodríguez-Moreno		
Gender (*)	Male	Birth date	
Social Security, Passport, ID number			
e-mail		https://www.upo.es/investiga/labneurocienciacelelaryplasticidad/miembros/antonio-rodriguez-moreno/	
ORCID	0000-0002-8078-6175		

A.1. Current position

Position	Full Professor of Physiology/Catedrático de Fisiología		
Initial date	26/12/2016		
Institution	Universidad Pablo de Olavide		
Department/Center	Fisiología, Anatomía y Biología Celular	Facultad de Ciencias Experimentales	
Country	Spain	Teleph. number	
Key words	Synaptic Plasticity, astrocytes, glutamate receptors, slices, electrophysiology, critical periods of plasticity		

A.2. Previous positions (research activity)

Period	Position/Institution/Country
2020-2024	Visiting Professor/University of Turin/Italy
2022	International Visiting Fellow/University of Oxford/UK
2019	International Visiting Fellow/University of Oxford/UK
2016	International Beaufort Scholar/University of Cambridge (UK)
2009-2016	Associate Professor/Universidad Pablo de Olavide/Spain
2012	Visiting Researcher/Harvard University/USA
2011	Visiting Researcher/University of Cambridge/UK
2006-2009	Senior Postdoctoral Research Associate/University of Oxford/United Kingdom/ Marie IntraEuropean Fellowship, Royal Society Fellowship.
2005	Postdoctoral Researcher/University College London/UK/FEBS Fellowships
2004	University Lecturer/Universidad Pablo de Olavide/Spain
2002-2003	Postdoct/University College London/UK/EMBO and HFSP Fellowships
2001-2002	Postdoc/Lab Andaluz Biología. UPO-CSIC/Spain. Beca Postdoct Ministerio
1995-2000	PhD Student/UAM/Instituto Cajal CSIC/Spain. FPI Fellowship.

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor en Ciencias (Biológicas)	Universidad Autónoma de Madrid, Spain	2000
Licenciado en Ciencias Biológicas	Universidad de Sevilla, Spain	1995
Ingeniero Técnico Agrícola	Universidad de Sevilla, Spain	1992

Part B. CV SUMMARY

-Director of the Laboratory of Cellular Neuroscience and Plasticity in the Universidad Pablo de Olavide (UPO), Sevilla since 2010. **Scientific objectives:** Our group is devoted to determine the cellular and molecular mechanisms of brain plasticity, the mechanisms involved in the closure and opening of plasticity windows during development and the roles of plasticity in the everyday activities of the brain and in different diseases. Additionally, we study the role of glutamate receptors in the normal and altered brain (neurodevelopmental diseases).

-Some awards and distinctions (10 last years)

-International Visiting Fellow. Magdalen College. Un. Of Oxford. 2022.

-Visiting Professorship. Un. of Turin. (Italy). 2020, 2021, 2022, 2023 and 2024.

- International Visiting Scholar. St Johns College. Un. of Oxford. 2019.
- Beaufort International Scholar. St Johns College. Un. of Cambridge. 2016.
- Complutense Fellow Harvard University (USA). 2011 and 2012.

Distinctions:

- Fellow of Magdalen College Oxford. Un. of Oxford. Since 2022.
- Member of the Programs Committee of Spanish Society for Neuroscience (SENC) since 2022.
- Council member of the European Society for Neurochemistry (ESN), since 2021.
- Fellow of St. John's College Oxford. Un. of Oxford. Since 2019.
- Fellow of St. John's College Cambridge. Un. of Cambridge. Since 2016.
- Academic Member of the "Real Academia de Medicina de Andalucía Oriental". Since 2003.

Institutional responsibilities.

- Member of the "Claustro" (university cloister) of the University Pablo de Olavide. 2014-Present.
- Member of Research Commission of the University Pablo de Olavide. 2011-2018.
- Member of the Governing body of the Sports Faculty at University Pablo de Olavide. (2008-2014)
- Director of the Master Program in Fundamental and Translational Neuroscience (2018-2023).

Teaching Experience/formation of young investigators:

- Teacher in Doctorates Programs at Uni. Pablo de Olavide (UPO) (2001-2024). Un. of Málaga (2013). Un. Autonomous of Madrid (2016, 2020, 2021) and Un. of Oxford (2007-2008).
- Director and professor of the Master Neurociencia Fundamental y Traslacional. UPO. (2019-2023).
- Director and professor of the Master Program: Neurociencia y Biología del Comportamiento. 2018-19.
- Director/supervisor Master Program Projects (26 students) and Projects for Graduation (12).
- Director of 12 PhD Thesis. 7 International Mention. 3 With Extraordinary Awards. All of them are working in different universities and research centres as CNRS France, Karolinska Institute, Un. of Oxford, Un. of Cambridge, University of Minnesota, etc.
- Organizer of **Cycle of Seminars in Neuroscience** for 15 years.
- Participant in **44 granted projects** (national and international, 25 since 2009, 30 as PI).
- Editor** of "Front Pharmacol". **Editor** of "Scientific Rep". **Ad hoc Referee:** Nat Neurosci, PNAS, Nat Comm, Mol Psychiatry, etc.

Most important discoveries:

1. First function of KARs in the brain depressing GABA release in the hippocampus. *Neuron* (1997). Had a great influence in the search of new ways to treat epilepsy.
2. First metabotropic action for KARs (mKARs) depressing GABA, opened new ways to study the physiology of typically ionotropic receptors having metabotropic functions. *Neuron* (1998).
3. Group I mGluR not only depress glutamate release but may also mediate and increase, i.e. they have a biphasic effect modulating glutamate release. *Neuron* (1998).
4. PKA involvement in mKARs functions, establishing this way of functioning of mKARs. *J Physiology* (2004), *J Neurophysiol.* (2006), *J Neurochem* (2012, 2013) and other journals.
5. Presynaptic NMDARs role in LTD, demonstrating for first time that presynaptic NMDARs mediate this form of presynaptic LTD. *Nat Neurosci* (2008) and *J Neurosci* (2011).
6. New learning rule in the somatosensory cortex, discovering that a pattern of activity (3 AP at 50-200 Hz + 1 single AP following 50 ms later (pattern that exist in vivo), produces directly LTD in the somatosensory cortex. This learning rule may be involved in synaptic pruning, it is very relevant for brain development. *Neuron* (2013), cover.
7. New form of presynaptic plasticity (LTD) in the hippocampus and that is only present during the first 3 postnatal weeks of development and the cellular mechanisms involved in the induction and expression of this LTD. *Cereb Cortex* (2016).
8. Two new forms of presynaptic LTP in the hippocampus and somatosensory cortex that appear after the first 3-4 weeks of postnatal development and characterized the actions mechanisms involved in their induction and expression, with a special role for adenosine. *Nat Comm* (2020) y *J Neurosci* (2022).
9. Discovered for first time an astrocyte role, opening and closing of plasticity windows and thus, having a direct role in the control of the duration of critical periods of plasticity in the brain. *Cereb Cortex* (2019), *Nat Comm* (2020) and *J Neurosci* (2022).
10. We discovered two new forms of t-LTD at entorhinal cortex-dentate gyrus synapses. *eLife* (2024).
11. Characterized the role of astrocytes in t-LTD at L2/3-L2/3 synapses of S1 cortex. *J. Neurosci* (2024).

Part C. RELEVANT MERITS

C.1. Publications

1. Sánchez-Gómez J..., **Rodríguez-Moreno A.** (2024). Spike timing-dependent long-term depression requires astrocyte D-serine in the mouse somatosensory cortex. *J. Neurosci.* In press. IF: 6.709.
 2. Coalt-Cuaya H., Martínez-Gallego I, **Rodríguez-Moreno A.** (2024). Astrocytes mediate two forms of spike timing-dependent depression at entorhinal cortex-hippocampal synapses. *eLife*. DOI: 10.1101/2024.03.25.586546. In press. IF: 8.77.
 3. Andrade-Talavera, Y., Fisahn, A., and **Rodríguez-Moreno, A.** (2023). Timing to be precise? An overview of spike timing-dependent plasticity, brain rhythmicity, and glial cells interplay within neuronal circuits." *Mol. Psychiatry* 28(6):2177-2188. IF: 13.43.
 4. Andrade-Talavera, Y., Pérez-Rodríguez, M..., and **Rodríguez-Moreno, A.** (2023). Neuronal and astrocyte determinants of critical periods of plasticity. *Trends Neurosci.* 46(7):566-580. IF: 16.978.
 5. Stratoulis V, Ruiz R,... **Rodríguez-Moreno A (6/27)**...and Joseph, B. (2023). Arg1+ microglia are critical for shaping cognition in female mice. *Nat Neurosci.* 26(6):1008-1020. IF: 28.77. 22 citas.
 6. Arroyo-García LE, Bachiller S, Ruiz R, Boza-Serrano A, **Rodríguez-Moreno A**, Deierborg T, Andrade-Talavera Y, Fisahn A. (2023). Targeting galectin-3 to counteract spike-phase uncoupling of fast-spiking interneurons to gamma oscillations in Alzheimer's disease. *Transl Neurodegener.* 12(1):6. doi: 10.1186/s40035-023-00338-0. IF: 9.883.
 7. Martínez-Gallego I, Pérez-Rodríguez M, Coatl-Cuaya H, Flores G, and **Rodríguez-Moreno A.** (2022). Adenosine and astrocytes determine the developmental dynamics of spike timing-dependent plasticity in the somatosensory cortex. *J Neurosci* 42:6038-52. IF: 6.709. 20 citas.
 8. Falcón-Moya, F, Pérez-Rodríguez, M, Prius-Mengual, J,...and **Rodríguez-Moreno A.** (2020). Astrocyte-mediated switch in spike timing-dependent plasticity during hippocampal development. *Nat. Comm.* 11:4388. IF: 14.92. 64 citas.
 9. Arroyo-García LE, Tendilla-Beltrán H, Vázquez-Roque RA,...**Rodríguez-Moreno A (10/11)**, Flores G. (2021). Amphetamine sensitization alters hippocampal neuronal morphology and memory and learning behaviors. *Mol Psychiatry* 26:784-94. IF: 15.99.
 10. Navas-Pérez E, Vicente-García C,...**Rodríguez-Moreno, A (15/22)**..., García-Fernández. J (2020). Characterisation of an eutherian gene cluster generated after transposon domestication identifies Bex3 as relevant for advanced neurological functions. *Genome Biology.* 21(1):267. IF: 10.806.
 11. Pérez-Otaño I, **Rodríguez-Moreno A.** (2019). Presynaptic NMDARs and astrocytes ally to control circuit-specific information flow. *Proc. Natl. Acad. Sci. USA* 116:13166-68. IF: 9.58.
 12. Pérez-Rodríguez M, Arroyo-García LE, Prius-Mengual J ..., and **Rodríguez-Moreno, A.** (2019). Adenosine receptor-mediated developmental loss of spike timing-dependent depression in the hippocampus. *Cereb. Cortex* 29:3266-3281. IF: 6.56.
 13. Andrade-Talavera Y, Duque-Feria P... and **Rodríguez-Moreno A** (2016) Presynaptic spike timing-dependent long-term depression in the mouse hippocampus. *Cereb. Cortex* 26, 3637-54. IF: 8.28.
 14. **Rodríguez-Moreno, A***. González-Rueda A..., Paulsen O. (2013). Presynaptic self-depression at developing neocortical synapses. *Neuron* 77, 35-42. **Cover**. IF: 15.982. *Corresponding author.
 15. **Rodríguez-Moreno A***, Paulsen O. (2008). Spike timing-dependent long-term depression requires presynaptic NMDA receptors. *Nat. Neurosci.* 11:744-745. *Cor. author. IF: 14.164.
- Books:** Editor of the book: "Kainate receptors. Novel Signaling insights". Springer-Nature. 2011. ISBN: 978-1-4419-9556. Author of 12 Book Chapters in International Editorial Press Companies.

C.2. Congress,

Invited to more than 200 talks and symposia in national and international meetings. Examples:

1. Invited conference. University of Glasgow. 2024.
2. Chair Symposium. IBRO Meeting. Granada. 2023.
3. Invited conference in Symposium. Bordeaux. 2022.
4. Invited conference. Molecular Biotechnology Center. Turin. 2022.
5. Invited conference. University of Cambridge. 2022.
6. Invited conference in symposium: Israel Society for Neuroscience. 2021.
7. Invited conference symposium. ISN. Montreal. Canada. 2019.
8. Chair Symposium. FENS Meeting. Berlin. 2018.
9. Chair Symposium. FALAN Meeting. Buenos Aires (Argentina). 2016.
10. Chair Symposium. FENS Regional Meeting. Prague. 2013
11. Chair Symposium. SENC. Tarragona. 2009.

C.3. Research projects

1. Title: Mechanisms and functions of presynaptic forms of synaptic plasticity during neurodevelopment. Spanish Agencia Estatal de Investigación. **PI: Antonio Rodríguez-Moreno**. Ref: PID2022-136597NB-I00. 1/09/2023-31/08-2027. 312.500 €.
2. Title: P2X receptors as a therapeutic opportunity (PRESTO). Cost Action CA21130. European Commission. Duration: 12/10/2022-11/10/2026. Chair: Elena Adinolfi. Italy. Member of WG2: **Antonio Rodríguez-Moreno**. Amount for the action: 550.000 euros.
3. Hippocampal paired recordings to understand synaptic plasticity. Biotechnology and Biological Sciences Research Council (BBSRC) Grant. International Partnering Award. PI in Spain: **Antonio Rodríguez-Moreno**. PI en Univ of Cambridge: Ole Paulsen. Ref: PMAG/724. Cuantía: 8.000 euros.
4. Title: Funciones y mecanismos celulares y moleculares de la plasticidad sináptica en el hipocampo y la corteza. PI: Antonio Rodríguez-Moreno. Duration. October 2021-March 2023.138.851 €.
5. Title: Mecanismos y funciones de la plasticidad sináptica. Ministerio de Ciencia e Innovación. PI: Antonio Rodríguez-Moreno. Duration: June 2020-May 2023.177.200 €.
6. Title: Mecanismos y funciones de la plasticidad sináptica. Proyecto FEDER Junta de Andalucía. JA/UPO. PI: Antonio Rodríguez-Moreno. Duration: 2020/21. Amount: 39.583 €.
7. Title: Maximising impact of research in neurodevelopmental disorders. Cost Action CA16210. European Commission. Duration: 11/ 2017-05/2022. Amount: 578.000 €. PI Action: Chair: Adrian Harwood. **Spain: Antonio Rodríguez-Moreno**.
8. Title: Synaptic Plasticity. Spanish Mineco. Reference: BFU2015-68655-P. PI: Antonio Rodríguez-Moreno. Duration: 1/1/2016-31/12/2019. Amount: 225.302 €.
9. Title: Presynaptic calcium transients during spike timing-dependent LTD. Royal Society (UK). Ref: IES-2013/R2. **PI Spain: Antonio Rodríguez-Moreno**. 15/11/2013- 15/11/2015. Amount: 18.000 €.
10. Title: Cellular and molecular mechanisms of spike timing-dependent plasticity. Andalusian Government. Reference: P11-CVI-7290. PI: Antonio Rodríguez-Moreno. Duration: 27/02/2013-26/02/2017. Amount: 275.631 €.

C.4. Contracts, technological or transfer merits

1. Experimental design for the in vivo study of memory and behavioural capabilities of wild and transgenic mice with Alzheimer-like deficits. Col with AVENTIS-PHARMA. 2001-2005. 300.000 €. Patents: 2. In the process of patenting two Caged MK801 compounds, SIGMA sells one of these compounds.

C.5. Other

JCR articles: 97

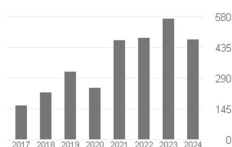
Number of total citations: 5179 (Google Scholar). 400 cites per year last 5 years. H-Index: 38.

Impact factor (average) journals best 5 articles as main author:18.93

Impact factor (average) best 10 articles as main author: 16

Best 6 articles as main author: 4 NEURON, 1 NAT NEUROSCIENCE, 1 NAT COMMUNICATIONS.

Citado por	VER TODO	
	Total	Desde 2019
Citas	5179	2587
Índice h	38	28
Índice i10	73	63



Reviewer for national and international agencies: -Agencia Estatal de Investigación (AEI), ANEP, ANECA, Comunidades Autónomas of Madrid, Castilla-La Mancha, Castilla-León and La Rioja.

-European Commission, Human Brain Project, CONACYT, Welcome Trust, MRC y BBRSC in the UK, Korean Agency for Science, French Agency for Science, Polish Science Agency, Japan Agency for Science, European Science Foundation, etc.

Memberships of scientific societies: Spanish Society for Biochemistry and Molecular Biology (SEBBM), European Federation of Biochemistry Societies (FEBS), Spanish Society of Neuroscience (SENC), federation of European Societies for Neuroscience (FENS), Spanish Society of Physiological Sciences (SECF). Society for Neuroscience (SFN), International Society of Neurochemistry (ISN). European Society of Neurochemistry (ESN), Israel Neuroscience Society (ISFN) and Japan Neuroscience Society (JNS).

-4 “Sexenios de Investigación” out of 4 possible.