

PERSONAL INFORMATION

First and Family name	María Llorens Martín	
Researcher codes	WoS Researcher ID	R-4613-2017
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Current position

Institution	Spanish Research Council (CSIC)		
Department	Center for Molecular Biology “Severo Ochoa” (CBMSO)		
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Current position	Científico Titular	From	Nov-2021
Key words	Adult neurogenesis, hippocampus, Alzheimer’s disease, plasticity		

Education

	Institution	Year
B.Sc. in Biology	<i>Universidad Complutense de Madrid (UCM)</i>	2004
M.Sc. in Neurosciences	<i>UCM</i>	2006
Ph.D. In Neurosciences	<i>UCM (“Sobresaliente Summa Cum Laude”)</i>	2009

Quality indicators of scientific production (Google Scholars)

Total citations: **4813** (2016-2021: **3201**). h-index: **37** (2016-2021: **29**). i10-index: **52** (2016-2021: **50**). Number of citations per element: **77.62**. Number of publications: **62**. As last author: **19** (including *SCIENCE* (2021), *Nature Medicine* (2019), *EMBO J* (2016), *Nature Protocols* (2020), *J Neuroscience* (x2) (2019); as first author: **28** (including *Molecular Psychiatry* (2013)). Number of theses supervised (completed): **1**. (N. Pallas-Bazarra, Universidad Autónoma de Madrid (UAM), 2015, Sobresaliente Summa Cum Laude). Number of ongoing doctoral theses being supervised: **3** (J. Terreros-Roncal, E. Moreno-Jiménez, M. Gallardo-Caballero, and M. de la Flor-García).

CV SUMMARY

I received my Ph.D. from the UCM in 2009 for my research on the effects of physical exercise on adult hippocampal neurogenesis (AHN). In 2010, I joined Prof. Jesús Ávila’s lab at the Center for Molecular Biology “Severo Ochoa” (CBMSO) as a postdoctoral fellow. During that period, I was awarded two postdoctoral fellowships (JAEDoc-2009 and Juan de la Cierva-2012) and investigated AHN alterations in the brains of murine models of Alzheimer’s disease (AD). In 2015, I was awarded a prestigious international “Japan Society for the Promotion of Science (JSPS) Postdoctoral fellowship for foreign researchers”, one of the most competitive research programs in that country. Supported by this fellowship, I undertook a postdoctoral research period at the University of Tsukuba (Japan) (Dr. Hideaki Soya’s lab).

In 2016, I set up my independent laboratory, which focuses on the basic biology and neuroprotective potential of AHN for the treatment of various diseases and the year later I was granted a Ramón y Cajal contract. In September 2020, I was awarded a tenured researcher position as *Científico Titular* at the CBMSO.

Since the establishment of my own group (“Adult neurogenesis and neurodegenerative diseases”), I have received four prestigious international research grants as principal investigator (an **ERC Consolidator Grant (ERC-CoG-2020)**, two from the Alzheimer’s Association (USA), and one from the Association for Frontotemporal Degeneration (USA)), and one grant from the Spanish Ministry of Economy and Competitiveness. Since 2016, we have published 27 papers, of which I am the last author in 17. Some of these studies have been published in high-impact journals such as *SCIENCE*, *Nature Medicine*, *Nature protocols*, *EMBO J*, and the *Journal of Neuroscience*. Our work has attracted significant interest from the media (*The Scientist*, *The Scientific American*, *The Guardian*, *Le Monde*, *Il Corriere della sera*, *El Mundo*, *El País*, *La Razón*, and *ABC*). Throughout my career, I have obtained three National Research Awards (CIBERNED Young Investigator Award (2014); “Miguel Catalán” Young Investigator Award (2019); and “Young Female Talent Award of the Spanish Royal Academy of Sciences (2019)). I am full member of the Spanish Young Academy (2021-2026),



European Academy (since 2022), and AcademiaNet (since 2022). Moreover, I serve as a member of the International Research Grant Program (IRGP) Council for the Alzheimer's Association (USA).

RELEVANT MERITS

Publications. Total number of publications: **62**.

Publications in the last 10 years: **42**. Selected publications: **15**.

Complete list of publications: <https://pubmed.ncbi.nlm.nih.gov/?term=llorens-martin+m&sort=date>.

- [1] Impact of neurodegenerative diseases on human adult hippocampal neurogenesis. Terreros-Roncal J, Moreno-Jiménez EP, Flor-García M, Rodríguez-Moreno CB, Trincherro MF, Cafini F, Rábano A, **Llorens-Martín M**. *SCIENCE*. 2021. Oct 21:eabl5163. doi: 10.1126/science.abl5163. PMID: 34672693.
- [2] GSK-3 β S9A overexpression leads murine hippocampal neural precursors to acquire an astroglial phenotype in vivo. Flor-García M, Ávila J, **Llorens-Martín M**. *Dev Neurobiol*. 2021 Jul;81(5):710-723.
- [3] Unraveling human adult hippocampal neurogenesis. Flor-García M; Terreros-Roncal J; Moreno-Jiménez E.P; Ávila J; Rábano A; **Llorens-Martín M**. *Nature Protocols*. 2020 Feb;15(2):668-693.
- [4] Adult-born neurons in brain circuitry. **Llorens-Martín M**. *SCIENCE*. 2019 May 10; 364(6440): 530.
- [5] Adult hippocampal neurogenesis is abundant in neurologically healthy subjects and drops sharply in Alzheimer's disease patients. Moreno-Jiménez E.P; Flor-García M; Terreros-Roncal J; Rábano A, Cafini F, Pallas-Bazarra N, Ávila J, **Llorens-Martín M**. *Nature Medicine*. 2019 Apr; 25(4): 554-60.
- [6] Activity-dependent reconnection of adult-born dentate granule cells in a mouse model of frontotemporal dementia. Terreros-Roncal J; Flor-García M*; Moreno-Jiménez EP*; Pallas-Bazarra N*; Rábano A; Sah N; van Praag H; Giacomini D; Schinder AF; Ávila J; **Llorens-Martín M**. *The Journal of Neuroscience*. 2019 Jul 17; 39(29): 5794-5815.
- [7] The Social Component of Environmental Enrichment Is a Pro-neurogenic Stimulus in Adult c57BL6 Female Mice. Moreno-Jiménez EP; Jurado-Arjona J; Ávila J; **Llorens-Martín M**. *Frontiers in Cell and Developmental Biology*. 2019 Apr 26; 7: 62.
- [8] Maturation dynamics of the axon initial segment (AIS) of newborn dentate granule cells in young adult C57BL/6J mice. Bolós M, Terreros-Roncal J, Perea JR, Pallas-Bazarra N, Ávila J, **Llorens-Martín M**. *The Journal of Neuroscience*. 2019 Feb 27; 39(9): 1605-1620.
- [9] Absence of microglial CX3CR1 impairs the synaptic integration of adult-born hippocampal granule neurons. Bolós M; Perea JR; Terreros-Roncal J; Pallas-Bazarra N; Jurado-Arjona J, Ávila J; **Llorens-Martín M**. *Brain Behavior and Immunity*. 2018 Feb; 68:76-89.
- [10] Soluble Tau has devastating effects on the structural plasticity of hippocampal granule neurons. Bolós M; Pallas-Bazarra N; Terreros-Roncal J; Perea JR; Jurado-Arjona J, Ávila J; **Llorens-Martín M**. *Translational Psychiatry*. 2017 Dec 8; 7(12): 1267-83.
- [11] Novel function of Tau in regulating the effects of external stimuli on adult hippocampal neurogenesis. Pallas-Bazarra N, Jurado-Arjona J, Navarrete M, Esteban JA, Hernández F, Ávila J, **Llorens-Martín M**. *The EMBO Journal*. 2016 Jul 1; 35 (13): 1417-36.
- [12] Retroviral induction of GSK-3 β expression blocks the stimulatory action of physical exercise on the maturation of newborn neurons. **Llorens-Martín M**, Teixeira CM, Jurado-Arjona J, Rakwal R, Shibato J, Soya H, Ávila J. *Cellular and Molecular Life Sciences*. 2016 Sep; 73(18): 3569-82.
- [13] Forced swimming sabotages the morphological and synaptic maturation of newborn granule neurons and triggers a unique pro-inflammatory milieu in the hippocampus. **Llorens-Martín M**, Jurado-Arjona J, Bolós M, Pallas-Bazarra N, Ávila J. *Brain Behavior and Immunity*. 2016 Mar; 53: 242-54.
- [14] Alzheimer disease-like cellular phenotype of newborn granule neurons can be reversed in GSK-3 β -overexpressing mice. **Llorens-Martín M**, Fuster-Matanzo A, Teixeira CM, Jurado-Arjona J, Ulloa F, Defelipe J, Rábano A, Hernández F, Soriano E, Ávila J. *Molecular Psychiatry*. 2013 Apr; 18(4): 395.
- [15] GSK-3 β overexpression causes reversible alterations on postsynaptic densities and



dendritic morphology of hippocampal granule neurons in vivo. **Llorens-Martín M**, Fuster-Matanzo A, Teixeira CM, Jurado-Arjona J, Ulloa F, DeFelipe J, Rábano A, ... & Ávila J. *Molecular Psychiatry*. 2013 Apr; 18(4): 451-60.

Research projects and grants

As principal investigator:

10/01/2021 – 09/30/2026: **ERC Consolidator Grant 2020** (European Commission), ERC-CoG-2020-101001916. PI: **María Llorens-Martín**.

09/01/2021 – 08/31/2024: Spanish Ministry of Science and Innovation: Programa Estatal I+D+i orientada a los retos de la sociedad. PID2020-113007RB-I00. PI: **María Llorens-Martín**. FPI contract associated.

01/01/2017 – 12/31/2021: Spanish Ministry of Economy and Competitiveness: Ramón y Cajal contract RYC-2015-17189. PI: **María Llorens-Martín**.

01/07/2021 – 09/30/2022: The Alzheimer's Association RAPID Grant, AARG-17-528125-RAPID. USA. PI: **María Llorens-Martín**.

01/01/2018 – 06/30/2021: The Alzheimer's Association 2017 Research Grant, AARG-17-528125. USA. PI: **María Llorens-Martín**.

01/01/2017 – 12/31/2017: The Association for Frontotemporal Degeneration (AFTD)'s 2016 Basic Research Pilot Grant. USA. PI: **María Llorens-Martín**.

06/01/2015 – 05/31/2017: The Alzheimer's Association 2015 New Investigator Research Grant: 2015-NIRG-340709. USA. PI: **María Llorens-Martín**.

01/01/2018 – 12/31/2020: Spanish Ministry of Economy and Competitiveness: Programa Estatal I+D+i orientada a los retos de la sociedad. SAF2017-82185-R. PI: **María Llorens-Martín**. FPI contract associated: 09/01/2019 – 08/31/2023.

11/01/2019 – 10/31/2021: Spanish Ministry of Economy and Competitiveness: Subvenciones para la promoción de empleo joven e Implantación de la garantía juvenil en I+D+i 2018. PEJ2018-001725-A. Spain. PI: **María Llorens-Martín**.

03/01/2018 – 02/28/2019: Comunidad de Madrid: Ayudas para la contratación de estudiantes predoctorales, Garantía Juvenil, convocatoria 2017. PEJD-2017-PRE/BMD-3439. Spain. PI: **María Llorens-Martín**.

Contracts and fellowships

2003: 'Beca de Introducción a la investigación de penúltimo curso' Cajal Institute.

2004: 'Beca de Introducción a la investigación de último curso' Cajal Institute.

2005 – 2009: 'JAE_PRE2004' predoctoral fellowship. Cajal Institute, Supervisor: J.L. Trejo.

2010 – 2013: 'JAE_DOC2009' postdoctoral researcher. CBMSO, Mentor: J. Ávila.

2014 – 2016: 'Juan de la Cierva' postdoctoral researcher. CBMSO, Mentor: J. Ávila.

2015: Postdoctoral Researcher, The Japan Society for the Promotion of Science postdoctoral fellowship. University of Tsukuba, Japan. Mentor: Prof. H. Soya.

2017 – present: 'Ramón y Cajal' contract. Group leader at the CBMSO.

Honor and awards

2009: Extraordinary award '**Best Doctoral Dissertation**' award, UCM, Madrid, Spain.

2013: **Young Investigator Award**, CBMSO, Madrid, Spain.

2013: **National Young Investigator Award**, CIBERNED, Spain.

2019: '**Miguel Catalán**' **Young Investigator Award for Scientific Research**, Madrid, Spain.

2019: **Young Female Talent in Biology**, Spanish Royal Academy of Sciences.

2021: **Full Member**, Spanish Young Academy.

2020: '**I3**' **Excellence in Research**, Spanish Ministry for Economy and Competitiveness.

2020: '**Acreditación a Contratado Doctor**' (Associate Professor) for Public Universities in Spain. National Agency for Quality Assessment and Accreditation of Spain (ANECA)

2020: '**Acreditación a Ayudante de Doctor**' (Assistant Professor) for Public Universities in Spain. ANECA.



2020: **Acreditación a Profesor de Universidad Privada'** (Full Professor) for Private Universities in Spain. ANECA.

2022: **Two 'Sexenios de Investigación'** recognised by the CNEAI. convocatoria anual de evaluación de la actividad investigadora del año 2021. (2021). Comisión Nacional Evaluadora de la Actividad Investigadora (CNEAI)

2022-2025: **Member** of the **International Research Grant Program (IRGP) Scientific Council** of the Alzheimer's Association (USA).

2022: Member of the European Academy (2022-present)

2022: Member of AcademiaNet (2022-present).

Teaching activities

2016 – present: **B.Sc. Degrees** (Chemistry, Nutrition, Biology, and Biochemistry. UAM, Spain. Courses on Biochemistry and Molecular Neurobiology) and **M.Sc. seminars:** **Biomolecules and Cell Dynamics** (UAM, Spain); **Molecular Biomedicine** (UAM, Spain); **Neuroscience** (UCM, Spain); **Biochemistry, Molecular Biology and Biomedicine** (UCM, Spain), **Advanced Cellular Therapy** (Universidad Francisco de Vitoria, Spain). 212 hours.

Invited conferences

More than **70** conference invitations, including several of the most relevant gatherings in neuroscience, including the **Dual Perspectives session, Society for Neuroscience (SfN)** (2019, Chicago, USA): 'Does adult hippocampal neurogenesis occur in humans?'; **Nanosymposium presentation** at the **SfN** (2019, Chicago, USA; 2017, Washington, USA); **Eurogenesis** (2016 and 2019, Bordeaux, France); Spanish Society for Neuroscience (2013, Oviedo; 2015, Granada; 2019, Santiago de Compostela); **AGE2020** (2021, Madison, USA); **Life Sciences Switzerland** (LS2) (2020, Zurich, Switzerland); **IBRO** (2019, Tsukuba, Japan); **Mediterranean Society for Neuroscience** (2019, Marrakesh, Morocco); and **Spanish Society for Neurology** (2009, Barcelona; 2019, Seville), among others.

Memberships of scientific societies

Founding member and member of the Executive Committee of the Spanish Network on Adult Neurogenesis (RENA). Member of the Society for Neuroscience (USA). Full Member of the Spanish Young Academy.

Selected Press and science divulgation

The Scientist (March 2019), **The Scientific American** (March 2019), **The Guardian** (March 2019), **Le Monde** (March 2019), **BBC** (March 2019), **STAT News** (March 2019), **Il Corriere della sera** (March 2019), **El Mundo** (March 2019, October 2021), **El País** (March 2019, November 2019, October 2021), **ABC** (March 2019, October 2021), **RTVE** (February 2013, March 2019, October 2021), **Investigación y Ciencia** (May 2012, November 2013, March 2019), **SINC Agency** (May 2012, February 2013, March 2019, October 2021), **EFE** (March 2012, October 2021), **La Vanguardia** (March 2019, October 2021), **Quo** (March 2019), **TeleMadrid** (March 2019), **COPE** (March 2019, October 2021), **Radio5** (March 2019, October 2021), **ONDACero** (March 2019, October 2021), and **SER** (March 2019, October 2021), among others.