

Part A. PERSONAL INFORMATION		CV date	13/10/2019
First and Family name	Miguel GARZÓN GARCÍA		
Social Security, Passport, ID number	33501137G	Age	50
Researcher codes	WoS Researcher ID (*)	K-8313-2012	
	SCOPUS Author ID(*)	7004993295	
	Open Researcher and Contributor ID (ORCID) **	https://orcid.org/0000-0003-0438-5158	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad Autónoma de Madrid		
Department	Anatomía, Histología y Neurociencia		
Address and Country	Arzobispo Morcillo 4, Madrid 28029, SPAIN		
Phone number	34914975466	E-mail	miguel.garzon@uam.es
Current position	Full Professor	From	31/01/2011
Key words	Neuroscience, Sleep, Reward, Narcolepsy,		

A.2. Education

PhD	University	Year
Neuroscience	Universidad Autónoma de Madrid	1996

A.3. JCR articles, h Index, thesis supervised...

JCR articles: 38

Citas totales: 1412 (Sept 2019) /desde 2014: 518

Tesis dirigidas (últimos 10 años): 3

Sexenios de investigación: 4 (último en 2018)

Índice h: 22 /desde 2014: 12

Índice i10: 29 /desce 2014: 13

(Datos de Google Scholar)

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Miguel Garzón obtained his MD and Neuroscience PhD degrees in UAM and was postdoctoral fellow in Cornell Medical College. He has studied the neurobiological substrates for 1) hypocretin regulation of sleep-wake states, mainly focused on brainstem-mediated arousing actions, neural connections and chemical architecture, 2) opiate actions in the central nervous system, especially those regarding cortical electroencephalographic synchronization and sleep states, as well as 3) ultrastructural bases for reinforcement in the mesocorticolimbic system within the mammalian brain. He is the author of 42 research papers, 9 book chapters and 8 review articles. He has also been the principal investigator of 8 research projects funded by competitive national calls. Thirty research papers are published in recognized neuroscience international journals and twelve in national journals on neuroscience research field. Miguel Garzón has been teaching Anatomy and Neurobiology for 27 years to medical students and has extensive experience in the formation of pre- and post-graduate students as a director of PhD and Master theses in the Neuroscience field. He has been working for the last 15 years investigating the hypocretinergic system and the neural bases of narcolepsy.

Part C. RELEVANT MERITS

C.1. Publications (including books) -last ten years

De Andrés I., **M. Garzón**, A. Núñez y M.L. Rodrigo-Angulo.

Fisiología en el Sueño.

En: Medicina del Sueño: Enfoque Multidisciplinario. Ed. J.L. Velayos. Editorial Médica Panamericana, Madrid, pp. 19-29. 2009.

García-Cabezas M.A., P. Martínez-Sánchez, M.A.Sánchez-González, **M. Garzón** and C. Cavada



Dopamine Innervation in the Thalamus: Monkey versus Rat.
Cerebral Cortex 19:424-434. 2009.

Núñez A., M.L. Rodrigo-Angulo, I. De Andrés and **M. Garzón**
Hypocretin/Orexin Neuropeptides: Participation in the Control of Sleep-Wakefulness Cycle and Energy Homeostasis.
Curr Neuropharmacol 7:50-59. 2009.

Alvira-Botero X., R. Pérez-González, C. Spuch, T. Vargas, D. Antequera, **M. Garzón**, F. Bermejo-Pareja and E. Carro
Megalin interacts with APP and the intracellular adapter protein FE65 in neurons.
Mol Cell Neurosci 45:306-315. 2010.

Garzón M

Bases neuroanatómicas de las acciones de las Hipocretinas en el Sistema Reticular Ascendente de Activación: su aportación a la fisiopatología de la Narcolepsia.
An R Acad Nac Med 127:327-342. 2010.

Reinoso-Suárez F., C. De la Roza, M.L. Rodrigo-Angulo, I. De Andrés, A. Núñez and **M. Garzón**.
GABAergic mechanisms in the ventral oral pontine tegmentum –the REM sleep induction site- in the modulation of sleep-wake states.
In: GABA and Sleep - Molecular, Functional & Clinical Aspects. Ed. J.M. Monti, S.R. Pandi-Perumal and H. Möhler. Birkhauser-Verlag, Basel, pp. 233-252. 2010.

Pardo B., T.B. Rodrigues, L. Contreras, **M. Garzón**, I. Llorente-Folch, K. Kobayashi, T. Saheki, S. Cerdán and J. Satrústegui
Brain glutamine synthesis requires neuronal-born aspartate as amino donor for glial glutamate formation.
J Cereb Blood Flow Metab 31:90-101. 2011.

Cid-Pellitero E., **M. Garzón**
Medial prefrontal cortex receives input from dorsal raphe nucleus neurons targeted by Hypocretin1/OrexinA-containing axons
Neuroscience 172:30-43. 2011.

Cid-Pellitero E., **M. Garzón**
Hypocretin1/OrexinA-containing axons innervate locus coeruleus neurons that project to the Rat medial prefrontal cortex. Implication in the sleep-wakefulness cycle and cortical activation
Synapse 65:843-857. 2011.

Cid-Pellitero E., **M. Garzón**
Hypocretin1/OrexinA Axon Targeting of Laterodorsal Tegmental Nucleus Neurons Projecting to the Rat Medial Prefrontal Cortex.
Cereb Cortex 21:2762-2773. 2011.

De Andrés I., **M. Garzón** and F. Reinoso-Suárez
Functional Anatomy of Non-REM Sleep.
Front Neurol 2:1-14 (Article 70). 2011. doi: 10.3389/fneur.2011.

Reinoso-Suárez F., I. de Andrés and **M. Garzón**.
Functional Anatomy of the Sleep-Wakefulness Cycle: Wakefulness.
In: Advances in Anatomy, Embryology and Cell Biology Vol 208. Ed. H.W. Korf. Springer, Heidelberg, 130 pp. 2011.

Real Academia Nacional de Medicina (**M. Garzón** como colaborador externo)
Diccionario de Términos Médicos
Editorial Médica Panamericana, Madrid. 2012.

Garzón M. and V.M. Pickel
Somatodendritic targeting of M5 muscarinic receptor in the rat ventral tegmental area: implications for mesolimbic dopamine transmission.
J Comp Neurol 521:2927-2946. 2013. doi: 10.1002/cne.23323.

Garzón M., A.M. Duffy, J. Chan, M.K. Lynch, K. Mackie and V.M. Pickel
Dopamine D2 and acetylcholine $\alpha 7$ nicotinic receptors have subcellular distributions favoring mediation of convergent signaling in the mouse ventral tegmental area.
Neuroscience 252:126-143. 2013. doi: 10.1016/j.neuroscience.2013.08.008. [Epub ahead of print]

Tortorella S., M.L. Rodrigo-Angulo, A. Núñez and **M. Garzón**
Synaptic interactions between perifornical lateral hypothalamic area, locus coeruleus nucleus and the oral pontine reticular nucleus are implicated in the stage succession during sleep-wakefulness cycle.



Front Neurosci (Neuropharmacology) 7:1-9 (Article 216). 2013. doi: 10.3389/fnins.2013.00216.

Pérez-González R., M.X. Alvira-Botero, O. Robayo, D. Antequera, **M. Garzón**, A.M. Martín-Moreno, B. Brera, M.L. de Ceballos and E. Carro

Leptin gene therapy attenuates neuronal damages evoked by amyloid- β and rescues memory deficits in APP/PS1 mice.

Gene Ther 21:298-308. 2014. doi: 10.1038/gt.2013.85.

Cid-Pellitero E., **M. Garzón**

Hypocretin1/orexinA-immunoreactive axons form few synaptic contacts on rat Ventral Tegmental Area neurons that project to the medial prefrontal cortex.

BMC Neuroscience 15:1-17 (Article 105). 2014. doi: 10.1186/1471-2202-15-105.

Garzón M., J.R. Villablanca e I. de Andrés.

Acciones de los Opiáceos en el Ciclo Vigilia-Sueño. Diferente participación del Prosencéfalo y del Tronco del Encéfalo.

En: *Tratado de Medicina del Sueño*. Eds. Sociedad Española de Sueño. Editorial Médica Panamericana, Madrid, pp. 112-119. 2015.

De Andrés I., **M. Garzón** y F. Reinoso-Suárez.

Mecanismos neurobiológicos de los estados del Ciclo Vigilia-Sueño.

En: *Tratado de Medicina del Sueño*. Eds. Sociedad Española de Sueño. Editorial Médica Panamericana, Madrid, pp. 62-75. 2015.

Garzón M. and V.M. Pickel

Electron microscopic localization of M2-Muscarinic receptors in cholinergic and noncholinergic neurons of the laterodorsal tegmental and pedunculopontine nuclei of the rat mesopontine tegmentum.

J Comp Neurol 524:3084-3103. 2016.

Garzón M

Análisis y reflexión sobre el trastorno de conducta del sueño REM.

Encuentros Multidisciplinares 53:1-8. 2016.

Carrera-Cañas C., **M. Garzón** and I. De Andrés

The transition between slow-wave sleep and REM sleep constitutes an independent sleep stage organized by cholinergic mechanisms in the rostradorsal pontine tegmentum

Front. Neurosci. 13:748. 2019. doi: 10.3389/fnins.2019.00748.

C.2. Research projects and grants - last ten years

Title: *Estudio interdisciplinar (neuroquímico, conectivo, poligráfico, electrofisiológico y ultraestructural) de la regulación orexinérgica de los estados de vigilia y sueño: Interacciones a nivel del tegmento pontino oral y el prosencéfalo basal*

Funding Agency: Dirección General de Investigación. Ref. BFU 2006-07430/BFI
from: 2006 to: 2009 P.I.: Miguel Garzón

Title: *Estudio de las neuronas de proyección cortical de la región pontomesencefálica de la rata y su relación con las hipocretinas/orexinas. Importancia en el ciclo vigilia- sueño*

Funding Agency: Fundación Eugenio Rodríguez Pascual
from: 2008 to: 2010 P.I.: Miguel Garzón

Title: *Bases morfofuncionales de la modulación hipotalámica en la regulación pontina del sueño REM*

Funding Agency: Dirección General de Investigación. Ref. BFU2009-06991/BFI
from: 2010 to: 2013 P.I.: Miguel Garzón

Title: *Estudio experimental y clínico de la narcolepsia: Mecanismos mediados por el tegmento pontino. Relaciones con otras hipersomnias centrales*

Funding Agency: Dirección General de Investigación. Subvención BFU2013-43741-P
from: 2014 to: 2016 P.I.: Miguel Garzón/Isabel de Andrés

Title: *Sistema hipocretinérgico y regulación del ciclo vigilia-sueño*

Funding Agency: Universidad Autónoma de Madrid. Subvención UAM/105
from: 2018 to: 2018 P.I.: Miguel Garzón

C.3. Evaluation and Editorial Activities

- Member of the Editorial Board (Review Editor) of Frontiers in Sleep and Chronobiology (2011-present) and Frontiers in Integrative Neuroscience (2019).
- 2000-present: Referee of manuscripts for *Synapse*, *European Journal of Neuroscience*, *Journal of Pharmacology and Experimental Therapeutics*, *Neuroscience*, *Anatomical Record*, *Vigilia-Sueño*,



Revista de Neurología, Histology and Histopathology, Brain Research, Journal of Neuroscience Research, Brain Research, Cerebral Cortex, Neuroscience and Journal of Neuroscience.

- Referee for evaluation agencies of Spain (*Agencia Nacional de Evaluación y Prospectiva, Dirección General de Investigación de la Comunidad de Madrid, Agencia para la calidad del Sistema Universitario de Castilla y León –ACSUCYL–, Comisión Mixta Docencia para la Evaluación Docente de la UAM*) and Colombia (*Sistema Nacional de Ciencia y Tecnología de Colombia*).

C.4. Committee Appointments

- 1999-2010 Secretary of the Neuroscience PhD Program, UAM.
- 2005-2009 Secretary of Steering Committee for Design of Neuroscience MSc Program, UAM.
- 2006-2014 Network of European Neuroscience Schools (NENS).
- 2007-2009 Secretary of the 2nd Course Committee, UAM Medical School.
- 2007-2011 International Relationships Delegate, UAM Medical School.
- 2009-2019 Madrid Chapter Delegate, Society for Neuroscience
- 2010-2011 Secretary of Academic Committee, Graduate Neuroscience Program (MSc, PhD), UAM
- 2010-2011 Vice-Chair, UAM Dpt. Anatomy, Histology and Neuroscience
- 2011-2015 Academic Registrar, UAM Medical School
- 2012-2016 Security and Health Committee Delegate, UAM.
- 2017- Chair, UAM Dpt. Anatomy, Histology and Neuroscience

C.5. Participation in Research Meetings

- Over 55 presentations in International research meetings and over 20 presentations in National research meetings.
- Member of the Organizing Committee in 4 National and 3 International Meetings
- Invited participation as lecturer in 8 International and 3 National Simposia.
- Invited seminars in more than 20 research Centers or Institutes in Spain

C.6. Awards

- Extraordinary Award of the Licenciante Degree, Medical School UAM (1993)
- Extraordinary Award of the Doctoral Degree, Medical School UAM (1997)
- Award from "López Sánchez" Foundation to the best Doctoral Thesis, Real Academia Nacional de Medicina (1997)
- Award from European Sleep Research Society for Young Researchers (2000)
- "Javier Espinar Sierra" Award, Vigilia-Sueño Foundation (2003)
- "Ramón y Cajal" Basic Research Award, Asociación Madrileña de Neurología (2010)
- Award from "Instituto de Investigación del Hospital La Paz (IDIPAZ)" to the best publications in the Neuroscience Area (2012)

C.7. Fellowships

- Twenty-two fellowships to attend international research meetings abroad.
- Eight fellowships to make international research stays abroad.
- Five fellowships to attend international courses.

C.4. Scientific Societies

- Sociedad Anatómica Española (since 1996)
- Sociedad Española de Neurociencia (since 1995)
- Society for Neuroscience (since 1998)
- European Sleep Research Society (since 2000)
- Sociedad Española de Sueño (since 2007)