

Part A. PERSONAL INFORMATION		CV date	5/9/2018
First and Family name	Jorge Brotons Mas		
Social Security, Passport, ID number	21503956z	Age	45
Researcher numbers	Researcher ID	H-4362-2015	
	Orcid code		

A.1. Current position

Name of University/Institution	Universidad Cardenal Herra-CEU		
Department	Facultad de Biomedicina		
Address and Country	Plaza Reyes Catolicos, 19, 03204 Elche, Alicante		
Phone number	965426486	E-mail	jorge.brotonsmas@uchceu.es
Current position	Profesor Colaborador	From	5/9/2018
Espec. cód. UNESCO	2490 Neurociencias		
Palabras clave	Episodic memory, cognition and behaviour, Electrophysiology, epilepsy, hippocampus, subiculum		

A.2. Education

PhD	University	Year
Psychology and Neurosciences	Trinity College Dublin University	2008
Psychology Degree	Universidad de Valencia	1998

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

I have worked in several competitive laboratories in Spain and Europe collaborating in long term International Projects and producing 17 scientific publications so far, 6 as first author and one as corresponding and first author. During my career I have published in top peer review journals describing the neuronal bases of spatial and episodic memory in physiological and in the pathology in top articles such as **Nature Neurosciences (IF=17.83, Q1, journal position 2/259)**, **Neuron (IF=14.024, Q1, journal position 6/259)**, **Journal of Neurosciences (IF=5.988, 1, journal position 30/259)**. My top cited article published in **Neuron** counts with 106 quotes. In addition, I published a paper as **corresponding author** (Brotons-Mas et al, 2017, Neurosciences). Also, I recently published a paper as first author in **Nature Neurosciences (del Pino*, Brotons-Mas* et al 2017, Nat Neurosci)** receiving a great deal of attention from different media. I was invited to the Sociedad Española de Neurociencias meeting, hold in September 2017 in Alicante, to present the results concerning this publication. In addition, I have been invited to a number of international symposium and I have presented my work in more than 20 international congresses including top meetings such as SFN, FENS or EBBS. In summary I have produced 17 publications, 6 as first author, one as corresponding and first author. A total of 9 publications where in Q1 with an average of 19.44 cites, and a total number of cites of 350 and H factor 9 (486 quotes and H-index of 10 Google Scholar). Also I have participated in the co-direction of master students, and at the moment I'm codirecting a thesis, (PhD Student, Arturo Valiño) in collaboration with Luis Martinez

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

I studied psychology at Valencia University where, as an undergraduate and due to my interest in the relationship between psychological processes and their underlying neuronal bases, I collaborated at Miñarro's and Rodriguez lab. Strongly interested in episodic and spatial memory, I joined Prof O'Mara's group at the Psychology Department (Trinity College Dublin) to do my PhD. During this time, my research was focused in understanding spatial memory and the properties of place cells, becoming skilled in animal behaviour and single neuron activity in freely moving animals. In addition, I obtained a grant as teaching assistant and funding from the Programme for Research in Third-Level Institutions. Later, as junior

post-doc I joined Sanchez-Vives lab at the IDIBAPS in Barcelona, where I set up freely moving recordings and place cell studies. During this period, I worked within an international consortium, acquired intense international experience, I produced 7 publications (2 as first author), participated in international meetings and mentored PhD students. Later, I joined de la Prida's lab at The Instituto Cajal in Madrid in 2009. This was a lab expert in oscillatory activity alterations related to memory distortion. During this stage of my career I worked within the European project MemStick working with European collaborators such as Carmen Sandi publishing 5 papers, 2 as first author in The Journal of Neuroscience on the mechanisms of episodic memory. To better understand the role of interneurons in spatial memory, I joined Prof Oscar Marin & Dr Beatriz Rico's (Instituto de Neurociencias (IN)) as senior postdoc in 2012. The combination of genetic tools and my background in neuropsychology of diseases, expertise in behaviour and electrophysiology led me to describe the role of different subpopulations of interneurons in spatial memory and schizophrenia publishing a first author paper in Nature Neurosciences and a paper as co-author in Neuron. In 2015, I joined Borrell's lab at the Instituto de Neurociencias, in the context of an ERC grant to further investigate the altered mechanisms of memory in epilepsy. I have continued to investigate the spatial properties of place cells in the subiculum, publishing a paper as corresponding author in Neurosciences. I have produced 19 scientific publications, 7 as first author and one as corresponding author, receiving 486 quotes and H-index of 10 (Google Scholar). I co-direct a PhD thesis, I have participated in international meetings; I was Teaching Assistant at TCD and I collaborated in undergraduate and post-graduate programs at the UMH and UEM. I have been project evaluator for the Wales Government, I have participated in the evaluation panel of a thesis, I am reviewer in Neurosciences and participated in the organization of an international symposium. I am also a scientific consultant for Neuronexus LTD a leading company in the electrophysiology and behavioural studies. I have acted as Responsible for the Experimental Area at the INA managing a total budget of 130.000 €, until now. I maintained collaborations with Dr Dupret, Oxford, Professor Richard Morris, Edinburgh. I was recently appointed as researcher and "profesor colaborador" at the UCH-CEU with the aim of establishing a new independent research line. I am a highly motivated scientist looking forward to consolidate my research line in episodic memory and its neuronal bases in the normal and in the pathology.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Manuel Valero, Robert G. Averkin, Ivan Fernandez-Lamo, Juan Aguilar, Diego Lopez-Pigozzi, **Jorge R. Brotons-Mas**, Elena Cid1, Gabor Tamas and Liset Menendez de la Prida (2017). "*Mechanisms for selective single-cell reactivation during offline sharp wave ripples and their distortion by fast ripples*". Neuron. Q1, IF=14.024

Isabel del Pino*, **Jorge Brotons-Mas***, Andre Marques-Smith, Oscar Marín, Beatriz Rico. " *Abnormal wiring of CCK+ basket cells disrupts spatial information coding* ". Nature Neurosciences. doi:10.1038/nn.4544. Q1 IF=17.83

Jorge R. Brotons-Mas, Cristoph Guger, Stefan Schaffelhofer, Shane O'Mara, M^a Victoria Sanchez-Vives (2017). "*Heterogeneous spatial representation by different subpopulations of neurons in the subiculum*". Neurosciences. Q1 IF=3.22

Lopez-Pigozzi D*, Laurent F*, **Brotons-Mas JR***, Valderrama M, Valero M, Fernandez-Lamo I, Cid E, Gomez-Dominguez D, Gal B, Menendez de la Prida L (2016). "*Altered Oscillatory Dynamics of CA1 Parvalbumin Basket Cells during Theta-Gamma Rhythmpathies of Temporal Lobe Epilepsy*". eNeuro.

François Laurent*, **Jorge R Brotons-Mas***, Elena Cid* Diego Lopez-Pigozzi, Manuel Valero, Beatriz Gal and Liset Menendez de la Prida (2014) "*Proximodistal reorganization of entorhinal theta input coordination in the dorsal hippocampus of epileptic rats*". J Neurosci. 2015 Mar 18;35(11):4760-75. Q1 IF=5.9

Inostroza M *, **Brotóns-Mas JR***, Laurent F, Cid E, de la Prida LM.J. (2013) "Specific impairment of "what-where-when" episodic-like memory in experimental models of temporal lobe epilepsy." *Journal of Neurosciences* Nov 6;33(45):17749-62. Q1 IF=5.9

Del Pino I*, García-Frigola C*, Dehorter N+, **Brotóns-Mas JR+**, Alvarez-Salvado E, Martínez de Lagrán M, Ciceri G, Gabaldón MV, Moratal D, Dierssen M, Canals S, Marín O, Rico B. (2013) "ErbB4 deletion from fast-spiking interneurons causes schizophrenia-like phenotypes". *Neuron*. Sep 18;79(6):1152-68. Q1 IF=14.2

Bellistri E, Aguilar J, **Brotóns-Mas JR**, Foffani G, de la Prida LM (2013). "Basic properties of somatosensory-evoked responses in the dorsal hippocampus of the rat." *Journal of Physiology*. May 15;591. Q1 IF=4.7.

Suárez LM, Cid E, Gal B, Inostroza M, **Brotóns-Mas JR**, Gómez-Domínguez D, de la Prida LM, Solís JM.(2012) "Systemic injection of kainic acid differently affects LTP magnitude depending on its epileptogenic efficiency". *PLoS One*. 2012;7(10). Q1 IF=2.7

Inostroza M, Cid E, **Brotóns-Mas J**, Gal B, Aivar P, et al. (2011) "Hippocampal-Dependent Spatial Memory in the Water Maze is Preserved in an Experimental Model of Temporal Lobe Epilepsy in Rats". *PLoS ONE* 6(7) Q1 IF=2.7.

Christoph Guger, Thomas Gener, Cyriel M. A. Pennartz, **Jorge R. Brotóns-Mas**, Günter Edlinger, S. Bermúdez i Badia, Paul Verschure, Stefan Schaffelhofer and Maria V. Sanchez-Vives (2011). "Real-time position reconstruction with hippocampal place cells. ". *Front Neurosci*. 2011 Jun 30;5:85. Q2 IF=23.8.

Brotóns-Mas J.R., Montejo, N., O'Mara, S.M. & Sanchez-Vives, M.V. (2010) "Stability of subicular place fields across multiple light and dark transitions". *European Journal of Neurosciences*, 32, 648-658. Q2 IF=2.8

O'Mara, S. M, Sanchez-Vives, M. V., **Brotóns-Mas, J. R**, Eugene O'Hare, (2009). "Roles for the Subiculum in Spatial Information Processing, Memory, Motivation and the Temporal Control of Behaviour" .*Prog Neuropsychopharmacol Biol Psychiatry*. 2009 Aug 1;33(5):782-90. Q1 IF=4.8

Brotóns-Mas J.R., SM O'Mara, Sanchez-Vives M.V. (2006). "Processing of spatial information: what we know about place cells and what they can tell us about presence". *Presence: Teleoperators & Virtual Environments*" October, Vol. 15, No. 5: 485–499. *Presence*. Q4 IF=0.4

* **Equal contribution as first author**
+ **Equal contribution as second author**

Book Chapters

Position Reconstruction of Awake Rodents by Evaluating Neural Spike Information from Place Cells in the Hippocampus (2009). G. Edlinger, G. Krausz, S. Schaffelhofer, C. Guger, **J. Brotóns-Mas** and M. Sanchez-Vives. *13th International Conference on Biomedical Engineering*. Springer Berlin Heidelberg.

Tsanov, M, **Brotóns, J**, Sanchez-Vives, MV & O'Mara SM (2008). Synaptic plasticity and mnemonic encoding by hippocampal formation place cells. In TF Kaiser & FJ Peters (Eds.). *Synaptic Plasticity: New Research*. Nova: New York

C.2. Research projects and grants

1. Understanding the development and function of cerebral cortex folding-ERC. (Instituto de Neurociencias de Alicante). 01/01/2015-31/12/2016.

2. Lilly Research Awards Program. Lilly España. Beatriz Rico. (Instituto de Neurociencias de Alicante). 01/10/2012-30/09/2014.
3. MemStick HEALTH-2007-2.2.1-4: Memory loss: underlying mechanisms and therapy.. Lizet Menéndez de la Prida. (Instituto de Neurobiología Ramón y Cajal). 01/05/2009-31/07/2012.
4. EU-FET27731, Presencia EU-FET27731. Presencia. M^a Victoria Sánchez. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/01/2008-31/12/2008.
5. Synthetic Forager FP7- ICT-217148. M^a Victoria Sánchez Vives. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/01/2008-31/12/2008.
6. Presencia EU-FET27731. M^a Victoria Sánchez. (Instituto de Neurociencias de Alicante). 01/02/2005-31/12/2007.
7. Brain Mechanisms of ChangeDublin. Brain Mechanisms of Change' funded by the
8. Higher Education Authority Programme for Research in Third-Level Institutions, Cycle 3. Programme for Research in Third-Level Institutions, (2004 2005) TCIN, Dublin.. Shane O'Mara. (Trinity College Dublin, Dublin University). 01/10/2001-31/01/2005.

C.5 Actividad Docente y Formativa

2018	Profesor Colaborador Facultad de ciencias Biomédicas	Alicante
2018	Universidad de Sevilla Colaborador Master Cerebro y conducta	Sevilla
2010	Universidad Europea de Madrid Proferssor Master oficial de fisioterapia neurológica en el paciente adulto	Madrid
2001-2004	Dublin University, Trinity College. <i>Profesor asistente</i> en el departamento de Psicología	Dublín

C.6 Presentaciones Orales en Congresos y Meetings

2017	SENC, Oral presentation Abnormal wiring of different subpopulations of interneurons during development generates specific oscillatory and cognitive impairments.	Alicante
2016	1st IN PhD Student & Postdoc Meeting “ Erbb4 deletion from specific interneuron subpopulation generates specific oscillatory and cognitive alterations.	Alicante

C.7 International panels

2017	Sêr Cymru II Rising Star Fellowship, External evaluator.
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