

## Curriculum Vitae

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### **ACADEMIC DEGREES**

- M.Sc. in Risk Prevention. Auditoría Salud. Institute of Business Training in Madrid (IFEM).2007
- BSc. in Environmental Sciences. Castilla-La Mancha University (UCLM). Toledo, Spain. 2006

### **RESEARCH AND PROFESSIONAL EXPERIENCE**

- Current Position: *Lab Manager* at Experimental Neurophysiology Lab. National Hospital for Paraplegics, SESCAM. Toledo, Spain.  
*PhD Student*, Castilla-La Mancha University (UCLM). Toledo, Spain.
- Jan 2009 - Apr 2016: *Lab Manager* at Bioengineering and Experimental Neurophysiology Lab. National Hospital for Paraplegics, SESCAM. Toledo, Spain.
- Jun 2007 - Dec 2009: *Lab Manager* at Bioengineering and Experimental Neurophysiology Lab. Contract supported by grant of Consejería de Educación y Ciencia de Castilla-La Mancha PAI 06-0104. Foundation of National Hospital for Paraplegics (FUHNPAIIN). Toledo, Spain.
- Oct 2006 - March 2007: *Lab Technician* in Microbiology Laboratory. Department of Analytical Chemistry and Food Technology. Castilla-La Mancha University (UCLM). Toledo, Spain.

### **SCIENTIFIC PUBLICATIONS**

- 1.- Alonso-Calviño E\*, Fernández-López E\*, Zaforas M, Rosa JM, Aguilar J. "Increased excitability and reduced GABAergic levels in somatosensory cortex under chronic spinal cord injury".*Exp Neurology* (2023). 369:114504. doi: 10.1016/j.expneurol.2023.114504. (IF: 5.33)
- 2.- Miguel-Quesada C\*, Zaforas M\*, Herrera-Pérez S\*, Lines J, Fernández-López E, Alonso-Calviño E, Ardaya M, Soria FN, Araque A, Aguilar J, Rosa JM. "Astrocytes adjust the dynamic range of cortical network activity to control modality-specific sensory information processing". *Cell Rep* (2023). 29;42(8):112950. doi: 10.1016/j.celrep.2023.112950. (IF: 9.42)

3.- Brocca ME\*, Mora-Rubio A\*, Alonso-Calviño E, Fernández-López E, Díez-Revuelta N, Martos-Puñal D, Aguilar J, Higuero AM, Abad-Rodríguez J. "Normal Cortical Myelination in Galectin-4-Deficient Mice". *Cells* (2022). 11(21):3485. (IF: 6.00)

4.- Zaforas M\*, Rosa JM\*, Alonso-Calvino E, Fernández-López E, Miguel-Quesada C, Oliviero A, Aguilar J. "Cortical layer-specific modulation of neuronal activity after sensory deprivation due to spinal cord injury". *J Physiology* (2020). 599(20):4643-4669. doi: 10.1101/2020.12.28.424612. (IF: 6.22)

5.- Fernández-López E, Alonso-Calviño E, Humanes-Valera D, Foffani G, Aguilar J. "Slow-wave activity homeostasis in the somatosensory cortex after spinal cord injury". *Experimental Neurology* (2019). 322:113035. doi: 10.1016/j.expneurol.2019.113035. (IF: 4.691)

6.- Humanes-Valera D, Foffani G, Alonso-Calviño E, Fernández-López E, Aguilar J. "Dual cortical plasticity after spinal cord injury". *Cerebral Cortex* (2016). 27(5):2926-2940. doi: 10.1093/cercor/bhw142. (IF 8.665)

7.- Alonso-Calviño E, Martínez-Camero I, Fernández-López E, Humanes-Valera D, Foffani G, Aguilar J. "Increased responses in the somatosensory thalamus immediately after spinal cord injury". *Neurobiology of Disease* (2016) 87:39-49. doi:10.1016/j.nbd.2015.12.003. (IF 5.078)

8.- Aguilar J, Humanes-Valera D, Alonso-Calviño E, Yagüe J G, Moxon K A, Oliviero A, Foffani G. "Spinal cord injury immediately changes the state of the brain". *The Journal of Neuroscience* (2010) 30(22):7528–7537. doi: 10.1523/JNEUROSCI.0379-10.2010. (IF 6.344)

### **PARTICIPATION IN PROJECTS**

1.- Piezo4Spine: Piezo driven theramesh: A revolutionary multifaceted actuator to repair the injured spinal cord (GA No. 101098597). HORIZON-EIC-2022.PATHFINDEROPEN-01. Start-End Date: 01/01/2023-31/12/2026. PI WP4 leader: Juliana M Rosa (in vivo evaluation). Participation: Member of the Research Team.

2.- Deciphering the role of GABAergic neuronal populations in the cortical reorganization after spinal cord injury. Ref: PID2019-105020GB-I00. Ministerio de Ciencia e Innovación. 2019-2023. PI: Juan Aguilar Lepe. Participation: Member of the Research Team.

3.- Unmyelinated axonal segments as regulators of axonal plasticity associated with memory and learning. Molecular and functional characterization in the hippocampus. Ref: SBPLY/17/180501/000250. Consejería de Educación, Cultura y Deporte. Junta de Comunidades de Castilla-La Mancha. 2018-2021. PI: Juan Aguilar y José Abad. Participation: Member of the Research Team.

4.- Spatial and temporal heterogeneity of neuronal plasticity caused by a spinal cord injury in the somatosensory cortex. Ref: BFU2016-08665-P. Ministerio de Economía y Competitividad. 2017-2019. PI: Juan Aguilar Lepe. Participation: Member of the Research Team.

5.- The role of neuronal synchronizations in long-term cortical somatosensory reorganization after spinal cord injury. Ref: PI11/02451. Instituto de Salud Carlos III. 2012-2014. PI: Guglielmo Foffani. Participation: Member of the Research Team.

6.- Immediate cortical reorganization after spinal cord injury in rats. International Foundation for Research in Paraplegia (Zurich, Switzerland). 2011-2014. IP: Guglielmo Foffani. Participation: Member of the Work Team.

7.- Translational study on the role of neural synchronizations in cortical somatosensory reorganization after spinal cord injury. Ref: PI08/1852. Instituto de Salud Carlos III. 2009-2011. IP: Guglielmo Foffani. Participation: Member of the Research Team.