

---

## PERSONAL INFORMATION

---

Last name: Mostany  
 Date of birth: 05/11/1973 (MM/DD/YYYY)

Gender: M

First name: Ricardo  
 Nationality: Spain

---

## PRESENT PROFESSIONAL POSITION

**Position title:** Assistant Professor

**Start date:** 09/01/2012 (MM/DD/YYYY)

**Institution:** Tulane University School of Medicine

**Department:** Department of Pharmacology

**Address:** 1430 Tulane Ave. Mail Code 8683. Room 4067, New Orleans, LA 70112

**Telephone (work):** +1 504-988-6623

**Fax (work):** +1 504-988-5283

**E-mail:** [rmostany@tulane.edu](mailto:rmostany@tulane.edu)

**Website:** <http://mostanylاب.tulane.edu/>

---

## EDUCATION AND TRAINING

Institution and location	Degree	Dates	Field of study
University of Leon, Spain	B.S.	06/96	Biological Sciences
University of Leon, Spain	Ph.D.	11/01	Neurobiology

### Positions and Employment

- |                |   |
|----------------|---|
| 1996 - 2001    | Pre-doctoral Fellow in the laboratory of Dr. Arsenio Fernandez, Department of Cell Biology, University of Leon (Spain)  |
| 2002 - 2005    | Post-doctoral Fellow in the laboratory of Dr. Angel Pazos, Department of Physiology and Pharmacology, University of Cantabria (Spain)                                   |
| 2006 - 2010    | Post-doctoral Scholar in the laboratory of Dr. Carlos Portera-Cailliau, Department of Neurology, David Geffen School of Medicine, University of California, Los Angeles |
| 2011 - 2012    | Staff Research Assistant III, Department of Neurology, David Geffen School of Medicine, University of California, Los Angeles   |
| 2012 - Present | Assistant Professor in the Department of Pharmacology, School of Medicine, Tulane University, New Orleans   |

### Awards/Honors

- |      |   |
|------|---|
| 1999 | Foundation for Health Research Predoctoral Fellowship             |
| 2001 | <i>Summa cum laude</i> , University of León                       |
| 2003 | National Investigations on Drug Abuse Postdoctoral Fellowship     |
| 2004 | Marqués de Valdecilla – IFIMAV Foundation Postdoctoral Fellowship |
| 2005 | SENC Cajal Winter Conference Travel Award                         |
| 2005 | Marqués de Valdecilla – IFIMAV Foundation Postdoctoral Fellowship |
| 2016 | Oliver Fund Scholars Award – Tulane University Office of Research |

### **Administrative Duties**

- 2013 – Present M.S. Neuroscience Admissions Committee, Neuroscience Program, Tulane University  
2014 – Present Tulane Brain Institute Executive Committee  
2016 – Present Chair, Tulane Brain Institute Seminar Series  
2017 – Present Tulane University School of Medicine Nominating Committee (Basic Science Representative)

---

## PUBLICATIONS

---

1. Scarritt, M.E.; Pashos, N.C.; Motherwell J.M.; Eagle, Z.R.; Burkett, B.J.; Gregory, A.N.; Mostany, R.; Weiss, D.J.; Alvarez, D.F.; Bunnell, B.A. Re-endothelialization of rat lung scaffolds through passive, gravity-driven seeding of segment-specific pulmonary endothelial cells. *Journal of Tissue Engineering and Regenerative Medicine* 2016, [Epub ahead of print]. PMID: 27943597.
2. Yoo, D.; Jupiter, R.C.; Pankey, E.A.; Reddy, V.G.; Edward, J.A.; Swan, K.W.; Peak, T.C.; Mostany, R.; Kadowitz, P.J. Analysis of Cardiovascular Responses to the H<sub>2</sub>S donors Na<sub>2</sub>S and NaHS in the Rat. *American Journal of Physiology. Heart and Circulatory Physiology* 2015, 309(4):H605-H614. PMID: 26071540.
3. Miquelajuregui, A.; Kribakaran, S.; Mostany, R.; Badaloni, A.; Consalez G.G.; Portera-Cailliau, C. Layer 4 pyramidal neurons exhibit robust dendritic spine plasticity *in vivo* after input deprivation. *Journal of Neuroscience* 2015, 35(18):7287-7294. PMID: 25948276.
4. Mostany, R.; Miquelajuregui, A.; Shtrahman, M.; Portera-Cailliau, C. Two-photon excitation microscopy and its applications in neuroscience. *Methods in Molecular Biology* 2015, 1251:25-42. PMID: 25391792.
5. Mostany, R.; Anstey, J.E.; Crump, K.L.; Maco, B.; Knott, G.; Portera-Cailliau, C. Altered synaptic dynamics during normal brain aging. *Journal of Neuroscience* 2013, 33(9):4094-4104. PMID: 23447617.
6. Johnston, D.G.; Denizet, M.; Mostany, R.; Portera-Cailliau, C. Chronic *in vivo* imaging shows no evidence of dendritic plasticity or functional remapping in the contralateral cortex after stroke. *Cerebral Cortex* 2013, 23(4):751-762. PMID: 22499800.
7. Valdizán, E.M.; Díaz, A.; Pilar-Cuéllar, F.; Lantero, A.; Mostany, R.; Villar, A.V.; Laorden, M.L.; Hurlé, M.A. Chronic treatment with the opioid antagonist naltrexone favours the coupling of spinal cord μ-opioid receptors to Gα protein subunits. *Neuropharmacology* 2012, 62(2): 757-764. PMID: 21903117.
8. Vidal, R.; Pilar-Cuéllar, F.; Dos-Anjos, S.; Linge, R.; Treceño, B.; Vargas, V.I.; Rodríguez-Gaztelumendi, A.; Mostany, R.; Castro, E.; Díaz, A.; Valdizán, E.M.; Pazos, A. New strategies in the development of antidepressants: towards the modulation of neuroplasticity pathways. *Current Pharmaceutical Design* 2011, 17(5): 521-533. PMID: 21375480.
9. Mostany, R.; Portera-Cailliau, C. Absence of large scale dendritic plasticity in layer 5 pyramidal neurons in peri-infarct cortex. *Journal of Neuroscience* 2011, 31(5):1734-1738. PMID: 21289182.
10. Mostany, R.; Chowdhury, T.G.; Johnston, D.G.; Portonovo, S.P.; Carmichael, S.T.; Portera-Cailliau, C. Local hemodynamics dictate long-term dendritic plasticity in peri-infarct cortex. *Journal of Neuroscience* 2010, 30(42): 14116-14126. PMID: 20962232.
11. Díez-Alarcia, R.; Mostany, R.; Fernández-López, A. Functional autoradiography and gene expression analysis applied to the characterization of the α<sub>2</sub>-adrenergic system in the chicken brain. *Journal of Chemical Neuroanatomy* 2009, 38(4): 282-291. PMID: 19770035.
12. Golshani, P.; Goncalves, J.T.; Khoshkho, S.; Mostany, R.; Smirnakis, S.; Portera-Cailliau, C. Internally mediated developmental desynchronization of neocortical network activity. *Journal of Neuroscience* 2009, 29(35): 10890-10899. PMID: 19726647.
13. Vidal, R.; Valdizán, E.M.; Mostany, R.; Pazos, A.; Castro, E. Long-term treatment with fluoxetine induces desensitization of 5-HT<sub>4</sub> receptor dependent signalling and functionality in rat brain. *Journal of Neurochemistry* 2009, 110(3): 1120-1127. PMID: 19522734.
14. Holtmaat, A.; Bonhoeffer, T.; Chow, D.; Chuckowree, J.; De Paola, V.; Hofer, S.B.; Hübener, M.; Keck, T.; Lee, W-C.A.; Knott, G.; Mrsic-Flogel, T.D.; Mostany, R.; Nedivi, E.; Portera-Cailliau, C.; Svoboda, K.; Trachtenberg, J.; Wilbrecht, L. Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. *Nature Protocols* 2009, 4(8): 1128-1144. PMID: 19617885.

15. Mostany, R.; Portera-Cailliau, C. A craniotomy surgery procedure for chronic brain imaging. *Journal of Visualized Experiments* 2008, 12: 680. PMID: 19066563.
16. Mostany, R.; Portera-Cailliau, C. A method for 2-photon imaging of blood flow in the neocortex through a cranial window. *Journal of Visualized Experiments* 2008, 12: 678. PMID: 19066562.
17. Mostany, R.; Valdizán, E.M.; Pazos, A. A role for nuclear  $\beta$ -catenin in SNRI antidepressant-induced hippocampal cell proliferation. *Neuropharmacology* 2008, 55(1): 18-26. PMID: 18511088.
18. Mostany, R.; Díaz, A.; Valdizán, E.M.; Rodríguez-Muñoz, M.; Garzón, J.; Hurlé, M.A. Supersensitivity to  $\mu$ -opioid receptor-mediated inhibition of the adenylyl cyclase pathway involves pertussis toxin-resistant G $\alpha$  protein subunits. *Neuropharmacology* 2008, 54(6): 989-997. PMID: 18384820.
19. Alonso-Ferrero, M.E.; Paniagua, M.A.; Mostany, R.; Pilar-Cuéllar, F.; Díez-Alarcia, R.; Pazos, A.; Fernández-López, A. Cannabinoid system in the budgerigar brain. *Brain Research* 2006, 1087(1):105-13. PMID: 16626655.
20. Pilar-Cuéllar, F.; Paniagua, M.A.; Mostany, R.; Pérez, C.C.; Fernández-López, A. Differential effects on [ $^{35}$ S]GTP $\gamma$ S binding using muscarinic agonists and antagonists in the gerbil brain. *Journal of Chemical Neuroanatomy* 2005, 30(2-3): 119-28. PMID: 16095872.
21. Rueda, N.; Mostany, R.; Pazos, A.; Flórez, J.; Martínez-Cué, C. Cell proliferation is reduced in the dentate gyrus of aged but not young Ts65Dn mice, a model of Down syndrome. *Neuroscience Letters* 2005, 380: 197-201. PMID: 15854777.
22. Mostany, R.; Pazos, A.; Castro, M.E. Autoradiographic characterization of [ $^{35}$ S]GTP $\gamma$ S binding stimulation mediated by 5-HT<sub>1B</sub> receptor in postmortem human brain. *Neuropharmacology* 2005, 48(1): 25-33. PMID: 15617724.
23. Revilla, R.; Díez-Alarcia, R.; Mostany, R.; Pérez, C.C.; Fernández-López, A. Norepinephrine, epinephrine and MHPG levels in chick brain development. *Neuropharmacology* 2001, 41(4): 480-485. PMID: 11543768.

## BOOK CHAPTERS

1. Goncalves, J.T.; Mostany, R. Intravital two-photon excitation microscopy in neuroscience: General concepts and applications, in *Advances in Intravital Microscopy: From Basic to Clinical Research*. Weigert, R (ed.), Springer Publishing. Springer Science+Business Media New York 2015. ISBN 978-94-017-9360-5.
2. Pazos, A.; Mostany, R.; Valdizán, E.M. Neural Plasticity and Depression: Etiopathogenetic and Therapeutic Implications in the Early Stages, in *The Early Stages of the Mental Disorders: Depressive Disorders (Plasticidad Neuronal y Depresión: Implicaciones Etiopatogénicas y Terapéuticas desde las Fases Tempranas en Las Fases Iniciales de las Enfermedades Mentales: Los Trastornos Depresivos)*, Vazquez-Barquero, J.L. (ed.), Elsevier-Masson Publishing. 2008, 94-101. ISBN 978-84-458-1936-4.
3. Pazos, A.; Mostany, R. Contribution of Post-Mortem Studies to the Understanding of Bipolar Disorder, in *The Early Stages of the Mental Disorders: Bipolar Disorder (Contribuciones de los Estudios de Cerebros Post-mortem a la comprensión de los Trastornos Bipolares, in Las Fases Iniciales de las Enfermedades Mentales: Trastornos Bipolares)*, Vazquez-Barquero, J.L. (ed.), Elsevier-Masson Publishing. 2005, 101-109. ISBN 978-84-458-1568-7.



## Completed Research Support

5P20GM103629-03

## Pilot COBRE on Aging and Regenerative Medicine

Mostany (PI)

06/01/15 – 05/31/16

## Age-related differential modulatory effects of acetylcholine on cortical synaptic connectivity

The goal of this research is to study the changes due to aging in the modulatory effect of acetylcholine on cortical circuits.

Role: PI

Funds awarded: \$78,260

LEQSF-EPS(2015)-PFUND-416

Pilot Funding for New Research (Pfund) NSF EPSCoR

Mostany (PI)

10/01/14 – 09/30/15

## Cortical Plasticity during the Estrous Cycle: Implications for Learning

The goal of this research is to study the changes in synaptic dynamics associated with the estrous and the potential effect on learning.

Role: PI

Funds awarded: \$10,000

5P20GM103629-03

## Pilot COBRE on Aging and Regenerative Medicine

Mostany (PI)

06/01/14 – 05/31/15

## Age-related changes in cortical plasticity during learning

The goal of this research is to study the mechanisms that the aging brain uses to establish stable synaptic connections when learning.

Role: PI

Funds awarded: \$78,260

## PARTICIPATION IN OTHER RESEARCH PROJECTS

---

### As a PI:

1. Developmental Chronnecto-Genomics: Quantifying Brain Dynamics and Related Genetic Factors in Childhood. NSF EPSCoR RII Track-2 1539067. 2015 – 2019. Co-PIs: Dr. Vince Calhoun (University of New Mexico), Dr. Julia Stephen (University of New Mexico), Dr. Yu-Ping Wang (Tulane University), and Dr. Tony Wilson (University of Nebraska). This grant provides salary support.

### As a trainee:

1. The Larry L Hillblom Network for Neural Repair after Stroke. Larry H. Hillblom Foundation. 2007 – 2011. PI: Dr. Thomas S. Carmichael.
2. Imaging the origin of dendritic spine abnormalities in Fragile X mice. National Institutes of Health (NIH) – RO1. 2007 – 2012. PI: Dr. Carlos Portera-Cailliau.
3. Imaging aberrant synaptic structure and function in an animal model of Fragile X. FRAXA (Fragile X Research Foundation). 2007 – 2009. PI: Dr. Carlos Portera-Cailliau.
4. Antidepressant nociceptive effects. Electrophysiological and analgesic study in an animal model of neuropathic pain. "Marqués de Valdecilla" Foundation. 2003 – 2003. PI: Dr. Alvaro Díaz Martínez.
5. Effects of the chronic administration of cannabinoid drugs on the cerebral serotonergic system: likely influence of the antidepressant efficacy. National Foundation on Abuse Drugs. 2002 – 2005. PI: Dr. Angel Pazos Carro.
6. Study of the effects of behavioral and pharmacological therapeutic strategies on the cognitive and neurochemical alterations observed in Ts65Dn mice, a mouse model of Down syndrome. National Research and Technology Ministry. 2002 – 2005. PI: Dr. Jesus Florez Beledo.
7. Antidepressants, depression and pain: I. Study of the antidepressants nociceptive effect. II. Changes in the response and treatment to pain in depressive disorder. National Research and Technology Ministry. 2002 – 2005. PI: Dr. Alvaro Díaz Martínez.
8. 5-HT1B and 5-HT1G receptor antagonists as potential antidepressants in biochemical and electrophysiological studies. European FEDER Funding-CICYT. 2000 – 2002. PI: Dr. Angel Pazos Carro.
9. Search of new sea-origin molecules candidates for drugs to be used in nervous system therapeutics. European FEDER Funding. 1999 – 2001. PI: Dr. Arsenio Fernandez Lopez.
10. Role of beta-adrenergic receptors and effects of the noradrenergic system on the GABA and glutamate systems in the gerbil epilepsy model. Fondo de Investigaciones Sanitarias (Foundation for Health Research, National Health Ministry). 1999 – 2001. PI: Dr. Carlos Soria Gulina.

---

## ABSTRACTS TO MEETINGS

---

1. Voglewede, R.L.; Dewitt, A.R.; Trimmer, E.H.; Mostany, R. Age-dependent alterations in dendritic spine dynamics in the somatosensory cortex following whisker stimulation. Gordon Research Conference: Dendrites: Molecules, Structure & Function; Lucca, Italy; March 26 – 30, 2017.
2. Voglewede, R.L.; Dewitt, A.R.; Trimmer, E.H.; Mostany, R. Age-dependent alterations in dendritic spine dynamics in the somatosensory cortex following whisker stimulation. Poster presentation. Society For Neuroscience. 46<sup>th</sup> Annual Meeting. Program No. 402.11. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online. San Diego, USA. 2016.
3. Popescu, I.R.; Le, K.Q.; Mostany, R. Hyperpolarized resting membrane potential of fast spiking neurons: a putative cause of decreased activity-dependent IPSCs in pyramidal neurons of the barrel cortex of aged mice. Poster presentation. Society For Neuroscience. 46<sup>th</sup> Annual Meeting. Program No. 598.08. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online. San Diego, USA. 2016.
4. Voglewede, R.L.; Dewitt, A.R.; Trimmer, E.H.; Mostany, R. Age-dependent differences in dendritic spine dynamics within the primary somatosensory cortical barrel field following sensory manipulation. Cold Spring Harbor Laboratory Neuronal Circuits meeting. Cold Spring Harbor, NY 2016.
5. Trimmer, E.H.; Alexander, B.; Barnes, H.M.; Mostany, R. Dendritic spine dynamics in the somatosensory cortex across the estrous cycle in female mice. Poster presentation. Society For Neuroscience. 45<sup>th</sup> Annual Meeting. Program No. 391.05. 2015 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2015. Online. Chicago, USA. 2015.
6. Miquelajuregui, A.; Kribakaran, S.; Mostany, R.; Badaloni, A.; Consalez, G.; Portera-Cailliau, C. Steady-state dynamics and experience-dependent plasticity of dendritic spines of layer 4/5a pyramidal neurons in somatosensory cortex. Oral presentation. 4th NAMASEN Training Workshop - Dendrites 2014. Heraklion, Greece. 2014.
7. Mostany, R.; Anstey, J.E.; Crump, K.L.; Maco, B.; Knott, G. and Portera-Cailliau, C. Increased synaptic dynamics in the aged brain. Poster presentation. Society For Neuroscience. 42<sup>nd</sup> Annual Meeting. Program No. 337.15. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012. Online. New Orleans, USA. 2012.
8. Mostany, R.; Portera-Cailliau, C. Phenylephrine-induced hypertension prevents the loss and/or remapping of functional areas in peri-infarct cortex. Poster presentation. Society For Neuroscience. 40<sup>th</sup> Annual Meeting. Program No. 353.8. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online. San Diego, USA. 2010.
9. Johnston, D.G.; Mostany, R.; Portera-Cailliau, C. Chronic in vivo imaging shows no evidence of dendritic plasticity or functional remapping in the contralateral cortex after stroke. Poster presentation. Society For Neuroscience. 40<sup>th</sup> Annual Meeting. Program No. 56.9. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online. San Diego, USA. 2010.
10. Mostany, R.; Chowdhury, T.G.; Johnston, D.G.; Carmichael, S.T.; Portera-Cailliau, C. Local blood flow predicts mode of dendritic plasticity in peri-infarct cortex. Poster presentation. Society For Neuroscience. 39<sup>th</sup> Annual Meeting. Program No. 721.11. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2009. Online. Chicago, USA. 2009.

11. Golshani, P.; Goncalves, J.T.; Khoshkhoo, S.; Mostany, R.; Smirnakis, S.M.; Portera-Cailliau, C. Internally mediated developmental desynchronization of neocortical network activity. Poster presentation. Society For Neuroscience. 39<sup>th</sup> Annual Meeting. Program No. 425.12. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2009. Online. Chicago, USA. 2009.
12. Pazos, A.; Vidal, R.; Mostany, R.; Valdizán, E.; Castro-Fernández, E. Chronic venlafaxine induces a dose-dependent down-regulation of the signalling pathways coupled to 5-HT<sub>4</sub> receptors. Poster presentation. Society For Neuroscience. 38<sup>th</sup> Annual Meeting. Program No. 558.3. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online. Washington DC, USA. 2008.
13. Valdizán, E.M.; Madureira, R.; Mostany, R.; Pérez, G.; Pazos, A. The regulation of hippocampal beta-catenin pathway induced by antidepressant drugs is dependent on the administration route. Poster presentation. 6<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.4, 018.26. Geneva, Switzerland. 2008.
14. Mostany, R.; Chowdhury, T.; Johnston, D.; Carmichael, S.T.; Portera-Cailliau, C. Regional blood flow dynamics correlate with dendritic spine plasticity in peri-infarct cortex. Poster presentation. 6<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.4, 051.29. Geneva, Switzerland. 2008.
15. Vidal, R.; Castro, E.; Martín, A.; Mostany, R.; Pazos, A. Dose-dependence in the effect of chronic venlafaxine on the sensitivity of 5-HT<sub>4</sub> receptors in rat hippocampus. Poster presentation. 7th International Meeting of the Serotonin Club (Official Satellite to the EPHAR Meeting). Fundamental & Clinical Pharmacology 22 Suppl. 2 (2008) P SCP038, p. 121. Oxford, UK. 2008.
16. Vidal, R.; Martín, A.; Mostany, R.; Pazos, A.; Castro, E. Long-term treatment with fluoxetine induces desensitization of 5-HT<sub>4</sub> receptors in rat hippocampus. Poster presentation. 5<sup>th</sup> Congress of the Federation of the European Pharmacological Societies (EPHAR). Fundamental & Clinical Pharmacology 22 Suppl. 2 (2008) P 146, p. 89-90. Manchester, UK. 2008.
17. Mostany, R.; Portera-Cailliau, C. Demonstration: Procedure to make Cranial Window. Oral communication (workshop). NIPS – JST International Workshop. From Photon to Mind. Advanced Nonlinear Imaging & Fluorescence-based Biosensors. <http://www.nips.ac.jp/hsdev/iws2008>. Okazaki, Japan. 2008.
18. Golshani, P.; Goncalves, J.T.; Mostany, R.; Smirnakis, S.M.; Portera-Cailliau, C. Rapid developmental desynchronization of neocortical network activity. Oral communication (symposium). NIPS – JST International Workshop. From Photon to Mind. Advanced Nonlinear Imaging & Fluorescence-based Biosensors. <http://www.nips.ac.jp/hsdev/iws2008>. Okazaki, Japan. 2008.
19. Mostany, R.; Maiz, J.; Portera-Cailliau, C. Long-term *in vivo* imaging reveals dendritic plasticity is highly correlated to blood flow dynamics in peri-infarct cortex. Poster presentation. Society For Neuroscience. 37<sup>th</sup> Annual Meeting. Program No. 898.23. 2007 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2007. Online. San Diego, USA. 2007.
20. Valdizán, E.M.; Mostany, R.; Madureira, R.; Pérez, G.; Pazos, A. Differential transduction mechanisms involved in chronic response induced by SSRI and SNRI antidepressant drugs. Poster presentation. Society For Neuroscience. 37<sup>th</sup> Annual Meeting. Program No. 267.10. 2007 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2007. Online. San Diego, USA. 2007.
21. Vidal-Casado, R.; Castro, E.; Mostany, R.; Martín, A.; Pazos, A. Estudio electrofisiológico de la regulación de los receptores 5-HT<sub>4</sub> tras la administración crónica de antidepresivos. Poster presentation. XII Congreso de la Sociedad Española de Neurociencia (SENC). Publicacions de la Universitat de Valencia, Ref. Número: 69, Sesión: 4; p. 137. Valencia, Spain. 2006.

22. Pazos, A.; Mostany, R.; Mato, S.; González-Maeso, J.; Rodríguez-Puertas, R.; Sallés, J.; García-Sevilla, J.A.; Meana, J.J.; Valdizán, M.A. Constitutive activity of cannabinoid CB1 receptors in major depression. Poster presentation. Society For Neuroscience. 36<sup>th</sup> Annual Meeting. Program No. 191.18. 2006 Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience, 2006. Online. Atlanta, USA. 2006.
23. Pazos, A.; Mostany, R.; Valdizán, E.M.; Pérez, G.; Ruiz, I. Constitutive Nuclear beta-catenin as a key pathway in antidepressant-induced neurogenesis. Poster presentation. 5<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.3, A166.12, 2006. Vienna, Austria. 2006.
24. Mostany, R.; Valdizán, E.; Pérez, G.; Castillo, M.J.; Pazos, A. Signal transduction pathways modifications related with increased cell proliferation induced by chronic venlafaxine treatment. Poster presentation. Society For Neuroscience. 35<sup>th</sup> Annual Meeting. Program No. 677.6. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2005. Online. Washington DC, USA. 2005.
25. Díaz, A.; Rojo, M.L.; Rodríguez-Gaztelumendi, A.; Castro, M.E.; Mostany, R. Estudio autorradiográfico de los cambios en la señalización serotonérgica vía receptores 5-HT<sub>1B</sub> espinales tras lesión nerviosa periférica. Poster presentation. XI Congreso de la Sociedad Española de Neurociencia (SENC). Revista de Neurología. Vol 41 (Supl 2) 2005. Ref. P428; p. 120. Torremolinos, Spain. 2005.
26. Mostany, R.; Valdizán, E.; Pérez, G.; Castillo, M.J.; Pazos, A. Increased cell proliferation and modifications in signal transduction pathways after chronic treatment with venlafaxine. Poster presentation. First Cajal Winter Conference (Neuronal Growth, Differentiation and Survival: Therapeutic Perspectives in Neuronal Diseases). SENC. Libro de Resúmenes de Ponencias y Comunicaciones. Benasque, Spain. 2005.
27. Pazos, A.; Mostany, R. Contribuciones de los estudios de cerebros post-mortem a la comprensión de los trastornos bipolares. Oral communication (symposium). 2<sup>a</sup> Reunión Nacional sobre las Fases Tempranas de las Enfermedades Mentales: El Espectro Bipolar. Libro de Resúmenes de Ponencias y Comunicaciones. Santander, Spain. 2004.
28. Martínez-Cué, C.; Rueda, N.; Mostany, R.; Pazos, A.; Flórez, J. Reduced cell proliferation in the dentate gyrus of aged but not young Ts65Dn mice: effects of environmental enrichment. Poster presentation. First International Conference Jérôme Lejeune. Abstract book. Paris, France. 2004.
29. Martínez-Cué, C.; Rueda, N.; Mostany, R.; Pazos, A.; Flórez, J. Cell proliferation and survival in the hippocampal dentate gyrus of Ts65Dn mice: effects of environmental enrichment. Poster presentation. Society For Neuroscience. 34<sup>th</sup> Annual Meeting. Program No. 239.1. 2004 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2004. Online. San Diego, USA. 2004.
30. Mostany, R.; Castillo, M.J.; Lanza, L.; Pazos, A. Increased cell proliferation and Wnt pathway signaling in the hippocampus induced by chronic administration of venlafaxine: relationship to the noradrenergic and serotonergic components. Poster presentation. Society For Neuroscience. 34<sup>th</sup> Annual Meeting. Program No. 912.16. 2004 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2004. Online. San Diego, USA. 2004.
31. Castro, E.; Mostany, R.; Pazos, A. Autoradiographic characterization of [<sup>35</sup>S]GTPγS binding stimulation mediated 5-HT<sub>1B</sub> receptor in postmortem human brain. Poster presentation. Serotonin Satellite Meeting to the 4<sup>th</sup> Congress of the Federation of the European Pharmacological Societies (EPHAR). Fundamental & Clinical Pharmacology 18 Suppl. 1 (2004). SAT-P 1.9, p. 136. Porto, Portugal. 2004.
32. Díaz, A.; Mostany, R.; Carrasco, C.; Barreda-Gómez, G.; Rodríguez-Puertas, R. Autoradiographic study on the functionality of inhibitory G-protein coupled receptors in the spinal cord of rats with mononeuropathy. Poster presentation. 4<sup>th</sup> Congress of the Federation of the European Pharmacological Societies (EPHAR). Fundamental & Clinical Pharmacology 18 Suppl. 1 (2004). P 12.09, p. 74. Porto, Portugal. 2004.

33. Hurlé, M.A.; Díaz, A.; Valdizán, E.M.; Mostany, R.; Rodríguez-Díaz, M.; Garzón, J. Opiod supersensitivity vs. tolerance: downstream signalling of  $\mu$ -opioid receptor in rat spinal cord. Poster presentation. 4<sup>th</sup> Congress of the Federation of the European Pharmacological Societies (EPHAR). Fundamental & Clinical Pharmacology 18 Suppl. 1 (2004). P 08.14, p. 53. Porto, Portugal. 2004.
34. Pilar-Cuéllar, F.; Alonso, M.E.; Paniagua, M.A.; Mostany, R.; Fernández-López, A. Autoradiographic distribution of cannabinoid receptors in the budgerigar brain. Poster presentation. 4<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.2, A186.10, 2004. Lisbon, Portugal. 2004.
35. Hurlé, M.A.; Mostany, R.; Díaz, A.; Valdizán, E.M.; Rodríguez-Díaz, M.; Garzón, J. Opiod supersensitivity versus tolerance: downstream signalling of mu-opioid receptor in rat spinal cord. Poster presentation. 4<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.2, A154.12, 2004. Lisbon, Portugal. 2004.
36. Díaz, A.; Mostany, R.; Carrasco, C.; Barreda-Gómez, G.; Rodríguez-Puertas, R. Impaired G-protein coupling to spinal galanin receptors in rats with mononeuropathy. Poster presentation. 4<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.2, A121.4, 2004. Lisbon, Portugal. 2004.
37. Mostany, R.; Castillo, M.J.; Lanza, L.; Pazos, A. Increased cell proliferation in the hippocampus induced by chronic administration of venlafaxine: relationship to the noradrenergic and serotonergic components. Poster presentation. 4<sup>th</sup> Forum of European Neuroscience. FENS Abstr., vol.2, A126.15, 2004. Lisbon, Portugal. 2004.
38. Flórez, J.; Rueda, N.; Mostany, R.; Pazos, A.; Martínez-Cué, C. Cell proliferation and survival in the hippocampal dentate gyrus of Ts65Dn mice: effects of environmental enrichment. Poster presentation. Expert Workshop on the Biology of Chromosome 21 genes. Abstract Book Expert Workshop on the Biology of Chromosome 21 genes. Washington DC, USA. 2004.
39. Villanueva, M.; Mostany, R.; Castro, M.E.; Martínez-Cué, C.; Pazos, A.; Díaz, A. Autoradiographic densities of brain 5-HT<sub>1A</sub>, 5-HT<sub>1B</sub> and 5-HT<sub>2A</sub> receptors in the olfactory bulbectomized rat. Poster presentation. XXV Congreso de la Sociedad Española de Farmacología. Methods and Findings in Experimental and Clinical Pharmacology Vol. 25, Suppl. A, 2003, Ref. P-012; pg 115. Cadiz, Spain. 2003.
40. Urién-Rodríguez, H.; Mostany, R.; Valdizán, E.M.; Castro, M.E.; García, M.T.; Pazos, A. Pharmacological characterisation of 5-HT<sub>1B</sub> receptor mediated G-protein activation in HeLa transfected cells vs human and rat striatum membranes. Poster presentation. XXV Congreso de la Sociedad Española de Farmacología. Methods and Findings in Experimental and Clinical Pharmacology Vol. 25, Suppl. A, 2003, Ref. P-011; pg 114. Cadiz, Spain. 2003.
41. Mostany, R.; Castro, M.E.; Castillo, M.J.; Pazos, A. Autoradiographic characterisation of 5-HT<sub>1B</sub> receptor mediated [<sup>35</sup>S]GTP $\gamma$ S binding in human brain. Poster presentation. XXV Congreso de la Sociedad Española de Farmacología. Methods and Findings in Experimental and Clinical Pharmacology Vol. 25, Suppl. A, 2003, Ref. P-010; pg 114. Cadiz, Spain. 2003.
42. Díaz, A.; Mostany, R.; Hurlé, M.A.; Valdizán, E. Changes in  $\mu$ -receptor signalling in the rat spinal cord during opiate supersensitivity. Poster presentation. XXV Congreso de la Sociedad Española de Farmacología. Methods and Findings in Experimental and Clinical Pharmacology Vol. 25, Suppl. A, 2003, Ref. P-007; pg 112. Cadiz, Spain. 2003.
43. Díaz, A.; Santamaría, J.; Mostany, R.; Riancho, V.; Ayesta, F.J. El tratamiento crónico con amlodipino y metadona induce supersensibilidad a la acción analgésica del opioide asociada a una mayor actividad de la proteína G acoplada al receptor opioide Mu. Poster presentation. X Congreso de la Sociedad Española de Neurociencia. Revista de Neurología. Vol 37 (Separata) 2003. Ref. P 136; p. 1150. Lleida, Spain. 2003.

44. Villanueva, M.; Martínez-Cué, C.; Mostany, R.; Castro, M.E.; García, M.; Pazos, A.; Díaz, A. Estudio autoradiográfico de la densidad y funcionalidad del receptor 5-HT<sub>1A</sub> en la rata bulbectomizada como modelo animal de depresión crónica. Poster presentation. X Congreso de la Sociedad Española de Neurociencia. Revista de Neurología. Vol 37 (Separata) 2003. Ref. P 119; p. 1146. Lleida, Spain. 2003.
45. Hurlé, M.A.; Mostany, R.; Valdizán, E.M.; Riancho, V.; Díaz, A. Modificaciones en los sistemas de transducción y efectores implicados en la supersensibilidad analgésica a opioides. Poster presentation. X Congreso de la Sociedad Española de Neurociencia. Revista de Neurología. Vol 37 (Separata) 2003. Ref. O 68; p. 1084. Lleida, Spain. 2003.
46. Paniagua, M.A.; Alonso, M.E.; Mostany, R.; Fernández-García, B.; Fernández-López, A. Receptor stimulated [<sup>35</sup>S]GTPγS binding in the budgerigar brain (*Melopsittacus undulatus*). Poster presentation. Society For Neuroscience. 32<sup>nd</sup> Annual Meeting. Program No. 830.4. 2002 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2002. Online. Orlando, USA. 2002.
47. Pazos, A.; Castro, M.E.; Díaz, A.; Mostany, R. Characterization of 5-HT<sub>1B/1D</sub> receptor mediated [<sup>35</sup>S]GTPγS binding in rat and human striatum. Poster presentation. Society For Neuroscience, 32<sup>nd</sup> Annual Meeting. Program No. 641.6. 2002 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2002. Online. Orlando, USA. 2002.
48. Pazos, A.; Mostany, R.; Díaz A.; Castro M.E. Autoradiographic characterization of 5-HT<sub>1B</sub> receptor mediated [<sup>35</sup>S]GTPγS binding in rat brain. Poster presentation. XXIV Congreso de la Sociedad Española de Farmacología. Methods and Findings in Experimental and Clinical Pharmacology Vol. 24, Suppl. A, 2002, pg 166. Toledo, Spain. 2002.
49. Mostany, R.; Fernández-López, A. Receptores muscarínicos en el modelo de epilepsia de Meriones unguiculatus. Oral communication (symposium). XXV Congreso de la Sociedad Española de Bioquímica y Biología Molecular. Libro de Abstracts del XXV Congreso de la SEBBM. Program No. S03-005. pg 76. Leon, Spain. 2002.
50. Mostany, R.; Cuellar, F.P.; Alonso, M.E.; Gimenes, C.C.; Fernández-López, A. Distribution of M<sub>2</sub>/M<sub>4</sub> muscarinic receptor-stimulated G-proteins in chick brain. Poster presentation. Society For Neuroscience, 31st Annual Meeting. Soc. Neurosci. Abstr., Vol. 27, Program No. 912.3, 2001. San Diego, USA. 2001.
51. Mostany, R.; Benedet, C.A.; Bermejo, J.C.; Soria, C.; Fernández-López, A. Differences in β-adrenoceptor subtypes in mammals. Poster presentation. Forum of European Neuroscience 2000. European Journal of Neuroscience. Vol 12(Supp.11) 2000 p. 404. Brighton, UK. 2000.
52. Aller, M.I.; Mostany, R.; Benedet, C.; Bucco, N.; Alonso, M.E.; Fernández-López, A. Muscarinic receptors in birds. Poster presentation. Society For Neuroscience, 29th Annual Meeting. Society for Neuroscience, Volume 25, p. 1985. Miami, USA. 1999.
53. Mostany, R.; Díez, M.I.; Gimenes, M., Alonso, M.E.; Fernández-López, A. Changes in the β-Adrenoceptor binding after induced seizures in the mongolian gerbil. Poster presentation. 1998 Forum of European Neuroscience. European Journal of Neuroscience, Vol 10, Number 10, 1 Abstract book. Berlin, Germany. 1998.
54. Revilla, V.; Candelas, M.A.; Revilla, R.; Mostany, R.; Robles, S.; Fernández-López, A. Distribution of [<sup>3</sup>H]CGP 12177 binding sites in rat spleen and lymph nodes. Poster presentation. The 2nd Meeting of the European Neuroscience Association. European Journal of Neuroscience, Suppl. no9, Abstract book, p. 78. Strasbourg, France. 1996.

- 
- 55. Revilla, V.; Aller, M.I.; Mostany, R.; Soria C.; Ramos G.; González-Caballero, N.; Fernández-López, A. Effects of the immobilization stress on  $\alpha_2$  and  $\beta$ -adrenoceptors in rat lymph nodes and spleen. An autoradiographic study. Poster presentation The 1<sup>st</sup> Meeting of the European Neuroscience Association. European Journal of Neuroscience, Suppl. No8, Abstract book, p. 66 Amsterdam, Nederlands. 1995.
  - 56. Fernández-López, A.; Revilla, V.; Candelas, M.A.; Aller, M.I.; Revilla, R.; Mostany, R.; Pazos, A. Autoradiographic characterization of  $\beta$ -adrenoceptors through rat lymph nodes and spleen. Poster presentation. 17th Annual Meeting of the European Neuroscience Association. European Journal of Neuroscience, Suppl. no7, Abstract book, p. 85. Vienna, Austria. 1994.

---

## OTHER ACHIEVEMENTS

---

### INVITED PRESENTATIONS

- Invited speaker: *Synaptic instability in the aged cerebral cortex: role of interneurons*. Department of Anatomy and Cell Biology, Departmental Seminar Series. University of Illinois at Chicago, Chicago, IL. October 2016.
- Invited speaker: *Two-photon excitation microscopy: general concepts and applications in neuroscience*. School of Pharmacy. Universidad Francisco de Vitoria, Madrid, Spain. September 2016.
- Invited speaker: *Synaptic instability in the aged cerebral cortex: role of interneurons*. Aging COBRE/Aging Interest Group Meeting. Tulane University, New Orleans, LA. September 2016.
- Invited speaker: *Synaptic instability in the aged cerebral cortex: role of interneurons*. Department of Physiology Seminar Series. Tulane University, New Orleans, LA. June 2016.
- Invited speaker: *Synaptic instability in the aged cerebral cortex*. The Buck Institute for Research on Aging, Formal Seminar Series. Novato, CA. May 2016.
- Invited speaker: *Two-photon excitation microscopy: general concepts and applications in neuroscience*. Department of Biochemistry and Molecular Biology Seminar Series. Tulane University, New Orleans, LA. September 2014.
- Invited speaker: *Two-photon excitation microscopy: general concepts and applications in neuroscience*. Envision the Future Special Seminar, Department of Microbiology and Immunology. Tulane University, New Orleans, LA. September 2014.
- Invited speaker: *Alteración de las dinámicas sinápticas corticales durante el envejecimiento: la solución o el problema?* Sessions científiques, Instituto de Investigaciones Biomédicas de Barcelona, Consejo Superior de Investigaciones Científicas (CSIC), Institut d' Investigacions Biomedíques August Pi i Sunyer (IDIBAPS), Spain. June 2014.
- Invited speaker: *Alteration of synaptic dynamics in the aging brain - A problem or a solution?* Research Seminars, Instituto de Neurociencias de Alicante, Universidad Miguel Hernández, Spain. June 2014.
- Invited speaker: *Alteración de las dinámicas sinápticas corticales durante el envejecimiento: la solución o el problema*. Seminars on Biomedicine of the School of Medicine, Universidad Complutense de Madrid, Spain. June 2014.
- Invited speaker: *Age-related structural plasticity of cortical neurons: Does the aging brain learn differently from the young brain*. Aging COBRE/Aging Interest Group Meeting. Tulane University, New Orleans, LA. December 2013.
- Invited speaker: *Alteration of synaptic dynamics in the aging brain - A problem or a solution?* Department of Cell Biology and Anatomy, Fall 2013 Seminar Series. Louisiana State University, New Orleans, LA. October 2013.
- Invited speaker: *Alteration of synaptic dynamics in the aging brain - A problem or a solution?* 2013-2014 Pharmacology Seminar Series. Tulane University, New Orleans, LA. August 2013.
- Invited speaker: *Age-related structural plasticity of cortical neurons: Does the aging brain learn differently from the young brain?* Department of Physiology Seminar Series. Tulane University, New Orleans, LA. June 2013.
- Invited speaker: *Altered synaptic dynamics during normal brain aging*. 16<sup>th</sup> Annual Southeast Ultrafast Conference. Coherent - Georgia Institute of Technology, Atlanta, GA. January 2013.

- Invited speaker: *Structural and functional plasticity in peri-infarct cortex after stroke*. Tulane University Neuroscience Program, Neuroscience Seminar Series. New Orleans, LA. October 2012.
- Invited speaker: *Two-photon excitation microscopy: applications in neuroscience*. Tulane University School of Medicine NeuroClub. New Orleans, LA. September 2012.
- Invited speaker: *Structural and Functional Neuronal Plasticity after Stroke: Evidences from in vivo Imaging Studies*. 2011-2012 Pharmacology Seminar Series. Tulane University, New Orleans, LA. September 2011.
- Invited speaker: *Structural and Functional Neuronal Plasticity after Stroke: Evidences from in vivo Imaging Studies*. Neuroscience Department, Baylor College of Medicine. Houston, TX. September 2011.
- Invited speaker: *Plasticidad sináptica y funcional en la corteza cerebral peri-infarto: estudio de imagen in vivo (Structural and Functional Neuronal Plasticity after Stroke: Evidences from in vivo Imaging Studies)*. IBBTEC Instituto de Biomedicina y Biotecnología de Cantabria, Cantabria, Spain. April 2011.
- Invited speaker: *Long-term dendritic spine plasticity and local blood flow dynamics in peri-infarct cortex*. Synapse to Circuit Club, University of California Los Angeles, CA. March 2009.
- Invited speaker: *Long-term in vivo imaging of neuronal plasticity in peri-infarct cortex*. From the Postdocs, from the Bench... Department of Neurobiology, University of California Los Angeles, CA. September 2007.

## OTHER PRESENTATIONS

- Invited speaker: Discussion Panel "Planning and submitting a successful Board of Regents grant". Tulane University Office of Academic Affairs and Provost, New Orleans, LA. August 2016.
- Invited speaker: Discussion Panel "Transition from postdoc to PI in Academia". Postdoc Association of The Buck Institute for Research on Aging, Novato, CA. May 2016.

## REVIEWER FOR SCIENTIFIC JOURNALS

- Journal of Neurochemistry, since 2005
- Journal of Visualized Experiments, since 2009
- Neurorehabilitation and Neural Repair, since 2012
- Cellular and Molecular Neurobiology, since 2013
- Intravital, since 2013
- Current Pharmaceutical Design, since 2013
- Brain Research, since 2013
- Current Topics in Medicinal Chemistry, since 2014
- Journal of Neurophysiology, since 2014
- Scientific Reports, since 2014
- Acta Neuropathologica, since 2016

## SCIENTIFIC GRANT REVIEW SECTIONS

- California Blueprint for Research to Advance Innovations in Neuroscience (Cal-BRAIN) Grant reviewer. Seed Grant Program 2014-2015.
- Fondazione Cariplo, Milano, Italy. Biomedical research on ageing-related diseases panel. Grant reviewer 2016.
- The Katholieke Universiteit Leuven, Belgium. Research Council C1 Special Research Funds 2017.
- National Fellowships Committee for Graduate Women in Science 2017-2018.

## SCIENTIFIC MEMBERSHIPS

2001 – Present Member, Society For Neuroscience (SFN)

- 2004 – Present Member, Spanish Society of Neuroscience (SENC)  
2004 – Present Member, Federation of European Neuroscience Societies (FENS)  
2013 – Present Member, Greater New Orleans Chapter of the Society for Neuroscience (GNOSFN)  
2015 – Present Member, American Heart Association (AHA)

## OTHER SCIENTIFIC CONTRIBUTIONS

Images from my research had been featured in scientific reviews and press releases as examples of two-photon laser microscopy images.

-Wilt, B.A.; Burns, L.D.; Wei Ho E.T.; Ghosh, K.K.; Mukamel, E.A.; Schnitzer, M.J. Advances in Light Microscopy for Neuroscience. Annual Reviews in Neuroscience 2009, 32:435-506.

-Arrigoni, M.; Armstrong, D.; Ultrafast lasers advance deep-tissue imaging. BioOptics World, March 2008 (<http://www.bioopticsworld.com/articles/2008/03/ultrafast-lasers-advance-deep-tissue-imaging.html>).

## DOCTORAL THESIS

Muscarinic receptors in the gerbil epilepsy model. Leon. November 2001. Sobresaliente *cum laude* unanimously (maximum grade possible).

## OTHER FELLOWSHIPS

-Image Analysis fellow. University of Leon. 1997/1998.

## SHORT TERM STAYS

One-week long stay in the laboratory of Dr. Anthony Dickenson, Department of Pharmacology, University College of London, to learn the spinal nerves ligation surgery as a model of chronic neuropathic pain. November 2002.