

# CURRICULUM VITAE DE VIRGINIA MELA RIVAS *PhD*

Departamento de Endocrinología y Nutrición, Instituto de Investigación Biomédica de Málaga (IBIMA), Hospital Virgen de la Victoria, Malaga 29010.

## INFORMACIÓN PERSONAL

Nombre	Virginia Mela Rivas				
DNI		Edad	35	Nacionalidad	Española
Códigos de investigación	WoS Researcher ID (*)	N-4664-2017			
	SCOPUS Author ID(*)	47061740700			
	Open Researcher and Contributor ID (ORCID) **	<a href="https://orcid.org/0000-0001-7702-0972">https://orcid.org/0000-0001-7702-0972</a>			

## EXPERIENCIA PROFESIONAL

22/02/2021-22/02/2023	Investigadora postdoctoral de la Universidad de Málaga (Spain)
01/03/2017-31/08/2020	Investigadora postdoctoral del Trinity College of Dublin (Ireland)
09/11/2015-31/12/2016	Investigadora postdoctoral de la Universidad Pompeu Fabra (Barcelona, Spain)
01/01/2011-09/11/015	Estudiante predoctoral en la Universidad Complutense de Madrid (Spain)

## EDUCACIÓN

PhD en Biología	Universidad Complutense de Madrid	Year 2015
MSc Bioquímica, Biología Molecular y Biomedicina	Universidad Complutense de Madrid	Year 2012
BSc Biología	Universidad Complutense de Madrid	Year 2010

## Resumen de la actividad investigadora: JCR artículos, h Index, tesis supervisadas...

- a) Número total de citaciones durante el periodo postdoctoral: 250 Media/año: 50
- b) Número total de publicaciones en el primer cuartil (Q1): 12; y primer decil (D1): 2
- c) h-index: 13
- d) Tesis supervisadas: 8 tesis de fin de Carrera y 3 Master

Como justificación de mi adecuación a la hora de realizar el proyecto seleccionado en la UMA para la participación en la beca L'Oreal he de destacar 4 años de experiencia postdoctoral en temáticas relacionadas con metabolismo y envejecimiento. Además sumar una amplia experiencia en temas relacionados con neuroendocrinología y obesidad puesto que a lo largo de mi tesis utilicé modelos de obesidad como es una dieta rica en grasas, así como modelos de estrés que inducen cambios metabólicos. Durante este periodo predoctoral analicé de manera exhaustiva todas las implicaciones de la hormona leptina (adipocina esencial en el desarrollo de la obesidad), de ahí que sea una candidata perfecta para dirigir el presente proyecto. A esto hay que sumarle que durante mi estancia postdoctoral en el Trinity College, amplié mis conocimientos en el campo del metabolismo celular lo que implica un aliciente extra para el buen desarrollo de dicho proyecto.

## MERITOS RELEVANTES

### Publicaciones

Mela V *et al.* Exercise-induced re-programming of age-related metabolic changes in microglia is accompanied by a reduction in senescent cells. *Brain Behav Immun.* 2020. pii: S0889-1591(19)31480-1. PMID: 31978523. IF:6.17. Q1 Citation#5.

Wolfe H, Mela V *et al.* Monocytes exposed to plasma from patients with Alzheimer's disease undergo metabolic reprogramming. *Neurosci Res.* 2019. pii: S0168-0102(18)30576-5. PMID: 30641113. IF:2.07. Q2. Citation#2.

McIntosh AL\*, Mela V\* *et al.* Iron accumulation in microglia triggers a cascade of events that leads to altered metabolism and compromised function in APP/PS1 mice. *Brain Pathol.* 2019. 29:606-621. PDMI: 30661261. IF: 6.35. D1.Citation#20

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Holland R, McIntosh AL, Finucane OM, **Mela V et al.** Inflammatory microglia are glycolytic and iron retentive and typify the microglia in APP/PS1 mice. *Brain Behav Immun.* 2017. pii: S0889-1591(17)30473-7. PMID: 29061364. IF:6.17. Q1 Citation#37

**Mela V et al.** Administration of a leptin antagonist during the neonatal leptin surge induces alterations in the redox and inflammatory state in peripubertal /adolescent rats. *Mol Cell Endocrinol.* 2017. 15;454:125-134. PMID: 28641938. IF:3.7. Q2. Citation#4

**Mela V et al.** Sex-dependent effects of neonatal maternal deprivation on endocannabinoid levels in the adipose tissue: influence of diet. *J Physiol Biochem.* 2017. 73(3):349-357. PMID: 28337718. IF:2.5. Q2. Citation#4

Marco EM, Ballesta JA, Irala C, Hernández MD, Serrano ME, **Mela V et al.** Sex-dependent influence of chronic mild stress (CMS) on voluntary alcohol consumption; study of neurobiological consequences. *Pharmacol Biochem Behav.* 2017. 152:68-80. PMID: 27894930. IF:2.5. Q1. Citation#14

**Mela V et al.** Blockage of neonatal leptin signaling induces changes in the hypothalamus associated with delayed pubertal onset and modifications in neuropeptide expression during adulthood in male rats. *Peptides.* 2016. 86:63-71. PMID: 27751931. IF:2.77. Q2. Citation#9

Pavón FJ, Marco EM, Vázquez M, Sánchez L, Rivera P, Gavito A, **Mela V et al.** Effects of Adolescent Intermittent Alcohol Exposure on the Expression of Endocannabinoid Signaling-Related Proteins in the Spleen of Young Adult Rats. *PLoS One.* 2016. 23;11(9):e0163752. PMID: 27662369. IF:2.8. Q1. Citation#6

**Mela V et al.** Modulatory influences of estradiol and other anorexigenic hormones on metabotropic, Gi/o-coupled receptor function in the hypothalamic control of energy homeostasis. *J Steroid Biochem Mol Biol.* 2016. pii: S0960-0760(15)30027-3. PMID: 26232394. IF: 3.98. Q1. Citation#13

Lopez-Rodriguez AB, **Mela V et al.** CB2 cannabinoid receptor is involved in the anti-inflammatory effects of leptin in a model of traumatic brain injury. *Exp Neurol.* 2016. 279:274-82. PMID: 27006282. IF:4.7. Q1. Citation#13

**Mela V et al.** Interaction between neonatal maternal deprivation and serum leptin levels on metabolism, pubertal development, and sexual behavior in male and female rats. *Biol Sex Differ.* 2016. 11;7:2. PMID: 26759712. IF:3.6. Q2. Citation#16

**Mela V et al.** Long Term Hippocampal and Cortical Changes Induced by Maternal Deprivation and Neonatal Leptin Treatment in Male and Female Rats. *PLoS One.* 2015. 10(9):e0137283. PMID: 26382238. IF:3.05. Q1. Citation#19

López-Gallardo M., Antón-Fernández A., Llorente R., **Mela V et al.** Neonatal treatment with a pegylated leptin antagonist induces sexually dimorphic effects on neurons and glial cells, and on markers of synaptic plasticity in the developing rat hippocampal formation. *J Neuroendocrinol.* 2015. 27(8):658-69. PMID: 25981175. IF: 3.17. Q2. Citation#4

**Mela V et al.** Blockage of the neonatal leptin surge affects the gene expression of growth factors, glial proteins and neuropeptides involved in the control of metabolism and reproduction in peri-pubertal male and female rats. *Endocrinology.* 2015. 156(7):2571-81. PMID: 25856428. IF: 4.15. Q1. Citation#15

Marco EM., Llorente R., López-Gallardo M., **Mela V et al.** The Maternal Deprivation animal model revisited. *Neuroscience & Biobehavioral Reviews.* 2015. 51C:151-163. PMID: 25616179. IF: 8.58. D1. Citation#62

Peñasco S., **Mela V et al.** Early maternal deprivation enhances voluntary alcohol intake induced by exposure to stressful events later in life. *Neural Plast.* 2015. 2015:342761. PMID: 25821601. IF: 3.56. Q2. Citaations#16

Borgquist A., **Rivas VM et al.** Gonadal steroids differentially modulate the actions of orphanin FQ/nociceptin at a physiologically relevant circuit controlling female sexual receptivity. *J Neuroendocrinol.* 2014. 26(5):329-40. PMID: 24617903. IF: 3.14. Q2. Citation#12

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Ceci C, **Mela V** *et al.* Prenatal corticosterone and adolescent URB597 administration modulate emotionality and CB1 receptor expression in mice. *Psychopharmacology (Berl)*. 2014. 231(10):2131-44. PMID: 24311359. Citation#11

Perianes-Cachero A., Burgos-Ramos E., Puebla-Jiménez L., Canelles S., Frago LM, Hervás-Aguilar A., Frutos S., Val Toledo-Lobo M., **Mela V** *et al.* Acute up-regulation of the rat brain somatostatin receptor effector system by leptin is related to activation of insulin signaling and may counteract central leptin actions. *Neuroscience*. 2013. 252C:289-301. IF:3.33. Q1. PMID: 23973620. Citation#6

Perianes-Cachero A, Burgos-Ramos E, Puebla-Jiménez L, Canelles S, Viveros MP, **Mela V** *et al.* Leptin-induced downregulation of the rat hippocampal somatostatinergic system may potentiate its anorexigenic effects. *Neurochem Int*.2012. 61(8):1385-96. IF:2.66. Q3. PMID: 23073237. Citation#11

**Mela V** *et al.* Maternal Deprivation Exacerbates the Response to a High Fat Diet in a Sexually Dimorphic Manner. *PlosOne*. 2012. 7(11):e48915. IF:3.73. Q1. PMID: 23145019. Citation#27

**Mela V** *et al.* 2012. Neonatal treatment with a pegylated leptin antagonist has a sexually dimorphic effect on hypothalamic trophic factors and neuropeptides levels. *Journal of Neuroendocrinology*. 24(5):756-65. Citation#18

Llorente-Berzal A, **Mela V** *et al.* Neurobehavioral and metabolic long-term consequences of neonatal maternal deprivation stress and adolescent olanzapine treatment in male and female rats. *Neuropharmacology*. 2011. 62(3):1332-41. IF:4.11. Q.1 PMID: 21819999. Citation#40

Granado M., García-Cáceres C., de la fuente-Martín E., Díaz F., **Mela V** *et al.* Effects of acute changes in neonatal leptin levels on food intake and long-term metabolic profiles in rats. *Endocrinology*. 2011. 152(11):4116-26. IF:4.46. Q1. PMID: 21933868. Citation#22

## **Conferencias/Congresos**

14/04/2021-16/04/2021 Sex Differences in the Immune System meeting, virtual meeting. Poster title: Microglial metabolism is a pivotal factor in sexual dimorphism in Alzheimer's disease. Poster title: Aged-related changes of microglial cells in an animal model of Alzheimer disease.

07/09/2019 – 07/13/2019 GLIA meeting, Porto, Portugal. Poster title: Microglia in aged brain switch to a glycolytic phenotype.

04/14/2019 – 04/17/2019 BNA meeting, Dublin, Ireland. Poster title: Microglia adopt a glycolytic phenotype in the aged brain and this change is attenuated by exercise.

07/07/2018 – 07/11/2018 FENS meeting, Berlin, Germany. Poster title: Glycolysis, an important player in microglia aging.

04/01/2016 – 04/04/2016 ENDO meeting, Boston, USA. Poster title: Blockage of the Neonatal Leptin Surge Modulates Circulating Leptin Levels and Peripheral and Central Leptin Sensitivity in Adulthood.

09/23/2015 – 09/25/2015 SENC meeting, Granada, Spain. Poster title: Effects of leptin and CB2 receptor antagonist in a murine model of traumatic brain injury Poster title: Neonatal leptin administration normalizes some but not all the long-term neuroendocrine changes induced by maternal deprivation in rats.

06/12/2015 – 06/15/2015 MNS meeting, Sardinia, Italy . Poster title: Long-term, sex-dependent neurobehavioral effects of maternal deprivation and neonatal leptin treatment in male and female rats

02/14/2015 – 02/18/2015 International Meeting steroids and nervous system, Turin, Italy. Oral presentation: Modulatory influences of estradiol and other anorexigenic hormones on metabotropic, Gi/o-coupled receptor function in the hypothalamic control of energy homeostasis.

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10/18/2014 – 10/21/2014 ECNP meeting, Berlin, Germany. Poster title: Neonatal exposure to a leptin antagonist impairs immune function and cytokine release in young male and female rats

09/18/2014 – 09/20/2014 ESPE meeting, Dublin, Ireland . Poster title: Replacement of the neonatal leptin surge during maternal deprivation normalizes some endocrine parameters but exacerbates others

09/10/2014 – 09/12/2014 International Marcé Society Biennial Scientific Meeting, Wales, UK. Oral presentation: Neurometabolic programming effects of early life stress: Insights from an animal model of maternal separation

07/5/2014 – 07/09/2014 FENS meeting, Milano, Italy. Poster title: Administration of a leptin antagonist during the physiological neonatal leptin surge induces long-term sex dependent alterations in adolescent rat brains  
Poster title: Oxidative and inflammatory stress in the spleens of young female rats treated with a leptin antagonist during the neonatal period.

11/09/2013 – 11/13/2013 SfN meeting, San Diego, California. Poster title: Mechanisms underlying the pleiotropic actions of leptin in hypothalamic neurons

09/25/2013-09/27/2013 XV SENC meeting, Oviedo, Spain. Poster title: Administration of a leptin antagonist during the physiological neonatal leptin surge induces long-term sex dependent alterations in the hippocampus and prefrontal cortex of adolescent rats

04/18/2013 – 04/20/2013 6TH European workshop on cannabinoid research, Dublin, Ireland. Poster title: Neonatal maternal deprivation and a high fat diet induce sex-dependent effects on endocannabinoid levels of three different types of adipose tissues.

10/15/2012 – 10/17/2012 6TH International Immunonutrition workshop, Palma de Mallorca, Spain. Poster title: Neonatal Impairment of proliferation and NK activity of spleen leucocytes in young rats treated with a leptin antagonist during the physiological leptin surge through postnatal days 5-10

11/29/2012 – 12/01/2012 1ST Spanish-Italian joint meeting on cannabinoid research, Madrid, Spain. Poster title: Prenatal corticosterone administration and stimulation of the endocannabinoid system during adolescence modulate emotional responses and CB1 receptors in mice.

07/14/2012 – 07/18/2012 8TH FENS, Barcelona, Spain. Poster title: Interaction of maternal deprivation and high fat diet intake on hypothalamic inflammation

09/28/2011 – 09/30/2011 XIV SENC meeting, Salamanca, Spain. Poster title: Maternal deprivation increases the susceptibility to high fat diet induced weight gain in a sexually dimorphic manner.

11/25/2010 – 11/27/2010 11ST SEIC meeting, Pontevedra, Spain. Oral presentation: Effects of neonatal maternal deprivation and/or a high fat diet on hypothalamic and hippocampal endocannabinoid levels in male and female rats.

11/18/2010 – 11/20/2010 8TH International meeting on the early phases of mental illness, Santander, Spain. Poster title: Neurobehavioural and metabolic long-term consequences of early maternal deprivation and adolescent olanzapine treatment in male and female rats.

## ***Proyectos de investigación y becas***

Sustainability fund set up by the Provost's Advisory Committee on Sustainability and Low Carbon Living for the project entitled "Green lab project" at Trinity College of Dublin.

15/IA/30524. PI: Marina A. Lynch. Institution: Trinity College of Dublin. Project title "Targeting glial plasticity to alleviate age-related loss of neuronal function in Alzheimer's disease". Funding body: SFI (Science Foundation Ireland). Funding: €1,380,245.00. From 01/09/2016 to 31/08/2020. Type of participation: researcher.

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113C-2016. PI: Elena Martín García. Institution: Pompeu Fabra University. Project title “Study of new molecular target in preclinical models of obesity”. Funding body: Marato TV3. Funding: 398646.39€. From 01/01/2017 to 31/12/2017. Type of participation: researcher.

BFU2012-38144. PI: Maria Paz Viveros Hernando. Institution: Complutense University of Madrid (UCM). Project title “Modelos experimentales para la investigación de funciones hipotalámicas y extrahipotalámicas de leptina y sus interacciones con kisspeptina. Implicaciones psiconeuroendocrinas” Funding body: Ministerio de Economía y Competitividad. Funding: 163800€ from 01/01/2013 to 31/12/2015. Type of participation: researcher.

UCM 951579. PI: Maria Paz Viveros hernando. Institution: UCM. Project title “Modelos animales para el estudio de factores psiconeuroendocrinos de vulnerabilidad durante periodos criticos del desarrollo; relaciones con alteraciones neuropsiquiatricas y adiccion”. Funding body: UCM. Funding: 15253.66€ from 01/01/2009 to 31/12/2011. Type of participation: researcher.

RD2012/0028/0021. PI: Maria Paz Viveros hernando. Institution: UCM. Project title “grupo miembro de la red de trastornos adictivos”. Funding body: Instituto de salud Carlos III. Funding: 124950€ from 01/01/2012 to 31/12/2015. Type of participation: researcher.

## *Certificaciones/Titulaciones*

May 2020 Certificado de la ANECA para las categorías: “Contratado a doctor” y “Profesor de Universidad privada”

Jul 2019 Special purpose certificate in academic practice (Trinity College of Dublin).

Sept-Nov 2018 Human subject protection course, Intellectual property course, The humane use and care of animals in research course, Research integrity course, Conflict of interest course and Safety and health course (Oxford University Press)

May 2017 Last Ireland: Irish legal Module to work with animals

May 2016 Certificado de la ANECA para la categoría: “Ayudante a doctor”

May 2015 Laboratory animal handling course (Animalaria)

August 2013 Statistics in medicine (Standford University)

July 2012 Introduction to lab safety-on-line training and IAUC 101 Barrier facility mouse and rat training (Western University)

## *Miembro de Sociedades científicas*

Since 2011-2015 Sociedad Española de Neurociencia (SENC)

Since 2012-2015 Instituto de Investigación Sanitaria del Hospital Clínico San Carlos

Since 2011-2015 Red de Trastornos Adictivos (RTA)

## *Premios*

2018 MERK Travel award to attend FENS2018 meeting

2017 Premio extraordinario a la mejor tesis en 2015 de la UCM

2014 SENC fellowship grant para asistir a la FENS meeting

2013 SENC fellowship grant para asistir a la SENC meeting

2010 SEIC fellowship grant para asistir a la SEIC meeting

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2010 Becario Honorario del departamento de fisiología de la facultad de biología (UCM)

## ***Supervisión y actividades docentes***

Durante mi Carrera he supervisado un total de 8 trabajos de fin de Carrera y 3 de Máster. También he revisado una Tesis y un Trabajo fin de Máster como revisor externo internacional, además de participar como revisor de la revista Journal Archives of Biochemistry and Biophysics.

He sido asistente de professor en el departamento de fisiología animal de la UCM donde he dado un total de 50 horas lectivas, además de haber sido contratada como asistente de professor en el Trinit College (the Global Brain Health Institute) donde he impartido un total de 30 horas lectivas. Actualmente estoy desempeñando la misma función en la UMA impartiendo un total de 60 horas lectivas por año.