

Part A. PERSONAL INFORMATION

CV date

01.10.2019

First and Family name	María Dolores Martín Bermudo		
Social Security, Passport, ID number	28869071T	Age	55
Researcher codes	WoS Researcher ID (*)	L-2306-2014	
	SCOPUS Author ID(*)		
	Open Researcher and Contributor ID (ORCID) **	0000-0002-8060-1695	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Centro Andaluz de Biología del Desarrollo		
Department	Regulación de expresión génica y morfogénesis		
Address and Country	CABD-Univ. Pablo de Olavide, Ctra Utrera km 1, 41013 Sevilla, España		
Phone number	954348674	E-mail	mdmarber@upo.es
Current position	Investigador Científico CSIC	From	01.04.2009
Key words	ECM, morphogenesis, Drosophila, actomyosin		

A.2. Education

PhD	University	Year
Ciencias Químicas	Autónoma de Madrid	1987

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

I have supervised 10 PhD thesis, two of them received the Price called "Premio Extraordinario de doctorado". At present, I am supervising 3 PhD students. With respect to the quality of my scientific production, of 41 publications I am corresponding author in 22 of them, first author in 13. My publication record has a citation mean per year of 65 and an H index 18. I have 4 "sexenios".

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

During my professional life, I have always worked on topics in the field of Developmental and Cell Biology using *Drosophila melanogaster* as model system.

During my PhD (1989-1992; Prof. F. Jiménez, CBM, Madrid), I studied the molecular mechanisms regulating early neurogenesis in the *Drosophila* embryo. My work unravelled the molecular mechanism by which neurogenic genes determine the right number of neuroblasts, the transcriptional regulation of proneural genes.

During my post-doctoral period (1993-1998; Prof. N. H. Brown, Univ. of Cambridge, RU), I started to work on the field of integrins, main cell-extracellular matrix receptors. I analysed the role of integrins during development and established that integrins act as adhesion and signalling molecules regulating a myriad of cellular processes, including cell migration, adhesion, division and differentiation.

Once established as an independent researcher (1998-2000, Anatomy Department, Univ. of Cambridge, RU; 2000-2004, Instituto de Parasitología y Biomedicina (CSIC), Granada; 2004-presente, Centro Andaluz de Biología del Desarrollo (CSIC-UPO), Sevilla), I focused on the characterization of the signalling pathways by which integrins perform all these different functions, with especial emphasis on cell migration.

At present, research in my group focuses on:

1-Identification of new genes regulating individual and collective cell migration. We use as model systems the migration of the border cells of the *Drosophila* ovary, as an example of collective cell migration, and the migration of the embryonic hemocytes, as an example of individual cell migration. Using a diverse array of techniques, including life

imaging, genomics, proteomics, we have been able to isolate new genes regulating these two types of cell migration.

2- Isolation of new genes regulating the invasive behaviour of epithelial cells. We generate tumor cells in the gut of the *Drosophila* larvae and identify genes that when eliminated or overexpressed confer these tumor cells the ability to migrate. By using life imaging, genetics and biochemistry, we are trying to elucidate the molecular and cellular mechanisms by which these genes regulate the invasive behaviour of tumor cells.

3- Analysis of the role of cellular tension during morphogenesis. We focus on analysing the role of actomyosin contractility in morphogenesis using as paradigm the follicular epithelium of the *Drosophila* ovary. By combining cell biology, life imaging, laser ablation experiments, mathematical modelling and genetics, we try to unravel the role of actomyosin contractility dynamics during epithelial morphogenesis.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1.J. Dai, B. Estrada, Sofie Jacobs, B. J. Sánchez-Sánchez², J. Tang, M. Ma, P.

Magadán-Corpas, José C. Pastor-Pareja* and **Maria D. Martín-Bermudo*** (2018). (*Co-corresponding authors). Dissection of Nidogen function in *Drosophila* reveals tissue-specific mechanisms of basement membrane assembly. *PLoS Genetics*, 14 (9).

2.**Martín-Bermudo, M. D.***, Gebel, L. and **Palacios, I.M.*** (2017). (*Co-corresponding authors). DrosAfrica: Building an African biomedical research community using *Drosophila*. Seminars in Cell & Developmental Biology, 10.1016/j.semcdb.2017.08.044.

3.**M. C. Díaz de la Loza, A. Díaz-Torres, F. Zurita, E. Moeendarbary, K. Franze, María D. Martín-Bermudo*** and **A. González-Reyes*** (2017) (*Co-corresponding authors). Laminin levels regulate tissue migration and Anterior-Posterior polarity during egg morphogenesis in *Drosophila*. *Cell Reports*, 20, 211-233.

4.**B. J. Sánchez-Sánchez, Urbano, J.M., Comber, K., Dragu, A., Wood, W., Stramer, B. and Maria D. Martín-Bermudo** (2017) *Drosophila* embryonic hemocytes produce laminins to strengthen migratory response. *Cell Reports*, 21,1461-1470.

5.**Valencia-Expósito, A., Grosheva, I., Míguez, D.G., González-Reyes, A. and Martín-Bermudo, M. D.** (2016) Myosin Light Chain Phosphatase regulates basal actomyosin oscillations during morphogenesis. *Nature Communications*, 7, 10798. .

6.**Martín-Bermudo, M. D., Pierre-Luc Bardet, Yohanns Bellaiche and Malartre, M.** (2015) The Vav oncogene antagonizes EGFR signaling and regulates adherens junction dynamics during *Drosophila* eye development. *Development*, 142: 1492-1501.

7.**Gómez-Lamarca, M.J., Cobreros Reguera, L., Ibáñez-Jiménez, B.,Palacios, I.M. and M. D. Martín-Bermudo** (2014) Integrins regulate epithelial cell differentiation by modulating Notch activity. *J. Cell Science*, 127: 4667-4678.

8.**K. Comber, S. Huelsmann, I. Evans, B. J. Sánchez-Sánchez, A. Chalmers, R. Reuter, W. Wood and M. D. Martín-Bermudo** (2013) A dual role for the β PS integrin *myospheroid* in mediating *Drosophila* embryonic macrophage migration. *J. Cell Science*, 126: 3475-3484.

9.**C. H. Fernández-Espartero, D. Ramel, M. Farago, M. Malartre, C. M Luque, S. Limanovich, S. Katzav, G. Emery and Martín-Bermudo, M. D.** (2013). The GEF Vav regulates guided cell migration by coupling guidance receptor signalling to local Rac activation. *J. Cell Science*, 126:2285-2293.

10.**Malartre, M., Derya, A., Fernández-Amador, F. and Martín-Bermudo, M. D.** (2010) The guanine exchange factor *vav* controls axon growth and guidance during *Drosophila* development. *J Neuroscience*, 30:2257-2267.

C.2. Research projects and grants

1.Project Title: Mecanismos que regulan la migración celular: análisis molecular, celular y genético

Funding Agency: MCyT Proyecto BFU2007-64715/BMC

Duration, from: 01/10/2007 until: 04/10/2010 Amount: 229.900,00

PI: **Dr. M.D. Martín Bermudo**

2. Project Title: Análisis genético de la regulación de la migración celular y de la formación de microvellosidades en *Drosophila*

Funding Agency: Junta de Andalucía Proyecto de Excelencia P06-CVI-01592

Duration, from: 01/04/2007 until: 10/04/2010 Amount: 217.999,88

PI: Dr Alfonso González Reyes

3. Project Title: From Genes to Shape

Funding Agency: MCyT Proyecto 25120 (Consolider)

Duration, from: 01/04/2007 until: 10/04/2010 Amount: 6.127.000

PI: Dr. Ginés Morata Pérez

4. Project Title: Estudio de las interacciones célula-matriz extracelular en el mantenimiento de las células troncales y en el control de la migración e invasión celular

Funding Agency: Junta de Andalucía Proyecto de Excelencia CVI-05058

Duration, from: 01/04/2010 until: 10/04/2013 Amount: 236.839,88

PI: **Dr. M.D. Martín Bermudo**

5. Project Title: Análisis genético, molecular y celular de los mecanismos que regulan la migración e invasión celular

Funding Agency: Ministerio de Economía y competitividad Proyecto BFU2010-16669

Duration, from: 01/01/2011 until: 31/12/2013 Amount: 200.000,00

PI: **Dr. M.D. Martín Bermudo**

6. Project Title: Aproximación genética, celular y molecular para identificar mecanismos que regulan la migración e invasión celular

Funding Agency: Ministerio de Economía y competitividad Proyecto BFU2013-48988

Duration, from: 01/01/2014 until: 31/12/2016 Amount: 200.000,00

PI: **Dr. M.D. Martín Bermudo**

7. Project Title: Genetic, molecular and cellular analysis of the mechanisms regulating cell migration and epithelia morphogenesis.

Funding Agency: Ministerio de Economía y competitividad Proyecto BFU2016-80797R

Duration, from: 01/01/2017 until: 31/12/2019 Amount: 266.200,00

PI: **Dr. M.D. Martín Bermudo**

C.3. Contracts

C.4. Patents

C.5, C.6, C.7... (e. g., Institutional responsibilities, memberships of scientific societies...)

C.5. Participation in research evaluation.

Regular reviewer of fellowships and research grants for EMBO, the National Science Foundation (NSF; USA), the Foundation for Science and Technology (Portugal), Agencia Nacional de Promoción Científica y Tecnológica (Argentina), la Agence Nationale de la Recherche (ANR; France), Wellcome/CRC, Medical Research Council and the Biotechnology and Biological Sciences Research Council (UK), Comunidad Autónoma de Madrid y Ministerio de Economía y competitividad. I participate as external expert in the following research agencies, ANR (France), EMBO y IRB (Barcelona). I am a regular reviewer of manuscripts for the following journals: *Nature*, *Cell*, *Developmental Cell*, *Development*, *Nature Cell Biology*, *Genes and Development*, *Developmental Biology*, *Journal of Cell Science*, *Current Biology* and *Mechanisms of Development*, *PLoS One*, *PLOS Genetics*, *eLife*, among others.

I am a member of the Genetic Society of America and the Spanish Society of the Spanish Society for Developmental Biology (SEDB).

C.6. PhD, Master and graduated supervision.

I have supervised X PhD students:

1.Title: Regulación de la migración y la forma celular durante el desarrollo de *Drosophila melanogaster*: Papel de las integrinas

Student: P. Domínguez Giménez. Universidad de Granada Date: Oct.2000

2.Title: Morphogenesis of the follicular epithelium during *Drosophila* oogenesis.

Student: A. Fernández Miñán. Universidad de Granada Date: Mar.2007

- 3.Title: Análisis Genético y Molecular de la migración celular durante la organogénesis del tubo digestivo embrionario de *Drosophila melanogaster*.
Student: J. M. Urbano Fernández. Universidad Pablo de Olavide Date: Dic.2007
- 4.Title: Identification and characterization of novel genes involved in border cell migration.
Student: L. Cobreros Reguera. Universidad Pablo de Olavide. Date: Apr. 2008
- 5.Title: Analysis of the role of integrins during epithelial morphogenesis.
Student: M. J. Gómez Lamarca. Universidad Pablo de Olavide. Date: Febr. 2013
- 6.Title: Mecanismos moleculares que regulan la migración colectiva.
Student: C. Huertas Fernández-Espartero. Universidad Pablo de Olavide. Date: May.2013
- 7.Title: Estudio de la función del gen perdido en la musculature de *Drosophila melanogaster*.
Student: Juan José Pérez Moreno. Universidad Pablo de Olavide Date: Feb.2015
- 8.Title: Papel de la matriz extracelular en la migración celular durante la embriogénesis.
Student: Besaiz J. Sánchez Sánchez. Universidad Pablo de Olavide. Date: Sep.2016
- 9.Title: Regulación de la actividad de actomiosina y su papel en morfogénesis y homeostasis de epitelios.
Student: Andrea Valencia Expósito. Universidad Pablo de Olavide. Date:Junio 2019.
- 10.Title: Papel de las integrinas como reguladores de la organización del citoesqueleto de actomiosina en la morfogénesis y homeostasis de epitelios.
Student: Carmina Santa-Cruz Mateos. Universidad Pablo de Olavide Date: Submitted.

At present I am supervising three PhD students. I have also supervised six Master projects and ten Undergraduate projects from both Universidad de Sevilla y Universidad Pablo de Olavide. At present, I am supervising one master Project and two undergraduate projects.

C.9. Promotion of scientific activities.

I am co-founder of DrosAfrica, <http://drosafrika.org//>, which was created to improve research in Africa by launching workshops on the use of *Drosophila* for biomedical research. So far, I have co-organized and participated in six theoretical-practical workshops in the following African countries: Uganda, Nigeria, Kenya, South Africa and Tunisia (<http://drosafrika.org//>). I also frequently participate in scientific dissemination seminars and especially those dedicated to encourage the enrolment of women in science.

C.10. Teaching at University level.

From 2003 until 2006, I worked as an Associated Teacher in the Department of Genetics of the Univ. Pablo de Olavide (Seville). Since then, I participate as a teacher in several masters programmes of the University of Granada and Univ. Pablo de Olavide.