

<b>CV Date</b>	16/03/2022
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## Part A. PERSONAL INFORMATION

First Name *	Marta		
Family Name *	Carretero Trillo		
Sex *	Female	Date of Birth *	04/12/1968
ID number Social Security, Passport *	33503072F	Phone Number *	(34) 914962528
URL Web			
Email Address	marta.carretero@ciemat.es		
Researcher's identification number	Open Researcher and Contributor ID (ORCID) *	0000-0001-6152-3102	
	Researcher ID	C-3842-2017	
	Scopus Author ID	7006690876	

\* Mandatory

### A.1. Current position

Job Title	Científico titular OPIs A1-27		
Starting date	2020		
Institution	Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas		
Department / Centre			
Country		Phone Number	
Keywords	Tissue culture; Human biology; Molecular design, de novo design; Gene therapy; Genetically modified organisms; Dna therapy		

### A.2. Previous positions

Period	Job Title / Name of Employer / Country
2009 - 2011	Investigador Titular de OPIs-A1-26 / Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas
2004 - 2009	Investigador Contratado. Titulado Superior nivel C. / Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas / Spain
2001 - 2004	Becario postdoctoral (Fundación M. Botín) / Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas / Spain
2000 - 2001	Becaria post-doctoral asociado a proyecto FIS 00/0602 / Hospital Universitario de La Princesa
1998 - 2000	Becario postdoctoral de la Comunidad de Madrid (CAM (08.2/0012/97)) / Hospital Universitario de La Princesa / Spain
1997 - 1998	Becario (beca BAE-FIS) / Hospital Universitario de La Princesa
1993 - 1996	Biologo Interno Residente (BIR) Inmunología / Hospital Universitario de La Princesa / Spain
2011 -	Científico Titular de OPIs-A1-26 / Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas

### A.3. Education

Degree/Master/PhD	University / Country	Year
Doctor en Biología	Universidad Autónoma de Madrid / Spain	1998
Licenciado en Ciencias Biológicas		1991

Degree/Master/PhD	University / Country	Year
	Universidad Autónoma de Madrid / Spain	

#### A.4. General quality indicators of scientific production

Articles:51

Cited articles: 39

Total number of citations: 2847

Total number of citations (without self-citations): 2768

h-Index: 24

### Part C. RELEVANT ACCOMPLISHMENTS

#### C.1. Publications

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 Scientific paper.** MDC Arriba; G Fernández; E Chacón-Solano; et al;. 2022. FPR2 DNA Aptamers for Targeted Therapy of Wound Repair Journal of Investigative Dermatology. <https://doi.org/10.1016/j.jid.2021.12.026>
- 2 Scientific paper.** O Ramos-Espinosa; D Mata-Espinosa; A Francisco-Cruz; et al;. 2021. Immunotherapeutic effect of adenovirus encoding antimicrobial peptides in experimental pulmonary tuberculosis Journal of Leukocyte Biology. <https://doi.org/10.1002/JLB.4MA0920-627R>
- 3 Scientific paper.** R Maseda; L Martínez-Santamaría; R Sacedón; et al;. 2020. Beneficial Effect of Systemic Allogeneic Adipose Derived Mesenchymal Cells on the Clinical, Inflammatory and Immunologic Status of a Patient With Recessive Dystrophic Epidermolysis Bullosa: A Case Report Frontiers in Medicine. 26-7, pp.576558. <https://doi.org/10.3389/fmed.2020.576558>
- 4 Scientific paper.** Victoria Gálvez; Esteban Chacón-Solano; Jose Bonafont; et al;. 2020. Efficient CRISPR/Cas9-mediated gene ablation in human keratinocytes to recapitulate genodermatoses: Modeling of Netherton Syndrome Molecular Therapy: Methods & Clinical Development. Elsevier. 18, pp.280-290. <https://doi.org/10.1016/j.omtm.2020.05.031>
- 5 Scientific paper.** C León; F García-García; S Llamas; et al;. 2020. Transcriptomic analysis of a diabetic skin-humanized mouse model dissects molecular pathways underlying the delayed wound healing response Genes. 12-1, pp.47. <https://doi.org/10.3390/genes12010047>
- 6 Scientific paper.** Jose Bonafont; Ángeles Mencía; Marta García; et al;. 2019. Clinically Relevant Correction of Recessive Dystrophic Epidermolysis Bullosa by Dual sgRNA CRISPR/Cas9-Mediated Gene Editing.Molecular Therapy. 27-5, pp.986-998. ISSN 1525-0016. <https://doi.org/10.1016/j.ymthe.2019.03.007>
- 7 Scientific paper.** D Benati; F Miselli; F Cocchiarella; et al;. 2018. CRISPR/Cas9-Mediated In Situ Correction of LAMB3 Gene in Keratinocytes Derived from a Junctional Epidermolysis Bullosa Patient.Molecular Therapy. 26-11, pp.2592-2603. ISSN 1525-0016. <https://doi.org/10.1016/j.ymthe.2018.07.024>
- 8 Scientific paper.** Carretero, M.; Guerrero Aspizua, S.; Illera, N.; et al; Del Rio, M.2016. Differential Features between Chronic Skin Inflammatory Diseases Revealed in Skin-Humanized Psoriasis and Atopic Dermatitis Mouse Models.The Journal of investigative dermatology. 136-1, pp.136-181. ISSN 1523-1747. <https://doi.org/10.1038/JID.2015.362>
- 9 Scientific paper.** Octavio Ramos-Espinosa; Sujhey Hernández-Bazán; Alejandro Francisco-Cruz; et al; Rogelio Hernández-Pando. 2016. Gene therapy based in antimicrobial peptides and proinflammatory cytokine prevents reactivation of experimental latent tuberculosis.Pathogens and Disease. Oxford University Press. 74-7. ISSN 2049-632X. <https://doi.org/10.1093/femspd/ftw075>

- 10 **Scientific paper.** Bracke, S.; Carretero, M.; Guerrero-Aspizua, S.; Desmet, E.; Illera, N.; Navarro, M.; Lambert, J.; del Río, M.2014. Targeted silencing of DEFB4 in a bioengineered skin-humanized mouse model for psoriasis: development of siRNA SECosome-based novel therapies. *Experimental Dermatology*. 23-3, pp.199-201. ISSN 0906-6705. <https://doi.org/10.1111/exd.12321>
- 11 **Scientific paper.** S. Bracke; E. Desmet; S. Guerrero-Aspizua; S. G. Tjabringa; J. Schalkwijk; M. Van Gele; M. Carretero; J. Lambert. 2013. Identifying targets for topical RNAi therapeutics in psoriasis: assessment of a new in vitro psoriasis model *Archives of Dermatological Research*. 305-6, pp.501-512. ISSN 0340-3696. <https://doi.org/10.1007/s00403-013-1379-9>
- 12 **Scientific paper.** Carretero M.; Guerrero-Aspizua S.; del Río M.2011. Applicability of bioengineered human skin: from preclinical skin humanized mouse models to clinical regenerative therapies. *Bioengineered bugs*. 2(4), pp.203-207. ISSN 1949-1018. <https://doi.org/10.4161/bbug.2.4.16112>
- 13 **Scientific paper.** Guerrero-Aspizua S.; García M.; Murillas R.; et al; del Río M.2010. Development of a Bioengineered Skin-Humanized Mouse Model For Psoriasis: Dissecting Epidermal-Lymphocyte Interacting Pathways *American Journal of Pathology*. 177-6, pp.3112-3124. ISSN 0002-9440. <https://doi.org/10.2353/ajpath.2010.100078>
- 14 **Scientific paper.** ; M.J. Escámez; M. Carretero; et al;. 2008. Assessment of optimal virus-mediated growth factor gene delivery for human cutaneous wound healing enhancement *Journal of Investigative Dermatology*. 128-6, pp.1565-1575. ISSN 0022-202X. <https://doi.org/10.1038/sj.jid.5701217>
- 15 **Scientific paper.** M. Carretero; M.J. Escámez; M. García; et al;. 2008. In vitro and in vivo wound healing-promoting activities of human cathelicidin LL-37 *Journal of Investigative Dermatology*. 128-1, pp.223-236. ISSN 0022-202X. <https://doi.org/10.1038/sj.jid.5701043>
- 16 **Scientific paper.** García M.; Escámez M.J.; Carretero M.; et al; Larcher F.2007. Modelling normal and pathological processes through skin tissue engineering *Molecular Carcinogenesis*. 46-8, pp.741-745. ISSN 0899-1987. <https://doi.org/10.1002/mc.20327>
- 17 **Scientific paper.** Carretero M.; Escámez M.J.; Prada F.; et al; del Río M.2006. Skin gene therapy for acquired and inheritable disorders *Histology and Histopathology*. 21, pp.1233-1247. ISSN 0213-3911. <https://doi.org/10.14670/HH-21.1233>
- 18 **Scientific paper.** M. Carretero; M. del Río; M. García; et al;. (1/). 2004. A cutaneous gene therapy approach to treat infection through keratinocytetargeted overexpression of antimicrobial peptides *Faseb Journal*. 18, pp.1931-1933. ISSN 0892-6638. <https://doi.org/10.1096/fj.04-1515fj>
- 19 **Book chapter.** Escámez M.J.; Carretero M.; García M.; Martínez-Santamaría L.; Larcher F.; del Río M.2010. Smart Growth Factor Gene Delivery for Impaired Wound Healing *Advances in Wound Care*. Mary Ann Liebert, Inc.. 1, pp.367-374. ISBN 978-1-934854-01-3.
- 20 **Scientific book or monograph.** S. Guerrero-Aspizua; M. Carretero; M. del Río. 2013. Bioengineered skin humanized model of psoriasis *Molecular Dermatology. Methods in Molecular Biology (Methods and Protocols)*. Humana Press, Totowa, NJ. 961, pp.305-323. ISBN 978-1-62703-226-1. [https://doi.org/10.1007/978-1-62703-227-8\\_20](https://doi.org/10.1007/978-1-62703-227-8_20)
- 21 **Review.** S Guerrero-Aspizua; M Carretero; CJ Conti; M del Río. 2020. The importance of immunity in the development of reliable animal models for psoriasis and atopic dermatitis *Immunology and Cell Biology*. 98-8, pp.626-638. <https://doi.org/10.1111/imcb.12365>

### C.3. Research projects and contracts

- 1 **Project.** PID2020-119792RB-I00, Improving epidermolysis bullosa biology understanding and developing disease-modifying and curative therapies for severe skin consequences (eb-DERMA).. Ministerio de Ciencia e Innovación.. del Río Nechaevsky. (UC3M-CIEMAT). 01/09/2021-31/08/2025. 290.400 €. Principal investigator.
- 2 **Project.** Desarrollo y Evaluación Pre-Clínica De Terapias Avanzadas Multimodales Para la Epidermolisis Bullosa Distrófica Recesiva. MULTITEREB. SAF2017-86810-R. Ministerio de Economía, Industria y Competitividad. Marcela Del Río Nechaevsky. (UC3M-CIEMAT). 01/01/2018-31/12/2020. 181.500 €. Team member.



- 16 Project.** Nuevas estrategias para el tratamiento de enfermedades raras. Instituto de Salud Carlos III CIBER Ref 06/146. Dr. Jose Luis Jorcano Noval. (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas). From 2007.
- 17 Project.** Estudio a nivel molecular de los procesos inflamatorios y angiogénicos en hepatitis de origen viral. Proyecto coordinado de investigación en ciencias de la salud (C.A.M.) (08.2/0012/97). Dr. Manuel López-Cabrera. (Hospital Universitario de La Princesa). From 1997.
- 18 Project.** Análisis de la relación estructura-función en receptores de células NK específicos para moléculas HLA de clase I: diseño del sistema experimental. Plan Nacional (SAF96-0335). Dr. Miguel López-Botet. (Hospital Universitario de La Princesa). From 1996.
- 19 Project.** Structure-function relationships of the genes and proteins encoded within the human Natural Killer cell receptor complex. Programa Biotechnology de la Unión Europea (BIO4-CT95-0062). Dr. Miguel López-Botet. (Hospital Universitario de La Princesa). From 1995.
- 20 Contract.** Redes de Investigación Cooperativa Orientadas a Resultados en Salud (RICORS): TERA V (RD21/0017/0033) Instituto de Salud Carlos III. Meana. (CCST-UC3M-CIEMAT). 2021-01/01/2024.
- 21 Contract.** Pre-clinical development of a gene editing medicinal product for epidermolysis bullosa SOHANA RESEARCH FUND, CURE EB. del Rio Nechaevsky. 20/03/2020-20/06/2022. 301.791 €.
- 22 Contract.** Cátedra Fundación Jiménez Díaz de Medicina Regenerativa y Bioingeniería de Tejidos. Instituto de Investigación Sanitaria Fundación Jiménez Díaz.. From 01/06/2014. 844.000 €.
- 23 Contract.** Nuevas estrategias para el tratamiento de enfermedades raras. Instituto de Salud Carlos III. CIBER. From 28/06/2006.

#### C.4. Activities of technology / knowledge transfer and results exploitation

- 1** José Sánchez-Puelles González-Carvajal; Luisa María Botella Cubells; Tania Aguado Sánchez; Marcela Del Rio Nechaevsky; Adela García Martín; Marta García Díez; Fernando Larcher Laguzzi; Marta Carretero Trillo. PCT/ES2019/070757 WO/2020/094902. Inhibitors of TGF-B1 and endoglin producers for use in the treatment of Epidermolysis Bullosa Spain. 14/05/2020. CSIC, UC3M, CIEMAT.
- 2** M. Carretero; M.C. de Arriba; M. del Rio; G. Fernández; V.M. González; R Carrion; E Martín. PCT/ES2020/070378 WO/2020/249841. Aptámeros agonistas del receptor FPR2 y usos de los mismos Spain. 10/06/2019. UC3M, CIEMAT, IRYCIS, Aptus Biotech, IIS-FJD.
- 3 Patent of invention.** Sara Guerrero-Aspizua; Marta Carretero; Marta García; Alvaro Meana; Jose Luis Jorcano; Fernando Larcher; Marcela del Río. ES 2352929 B1. Modelo humanizado de psoriasis Spain. 16/01/2012. Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas; Centro Comunitario de Sangre y Tejidos del Principado de Asturias. Centro Comunitario de Sangre y Tejidos de Asturias; Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas.