CV Date	12/05/2022

Part A. PERSONAL INFORMATION

First Name	María Concepción		
Family Name	Serrano López-Terradas		
Sex	Female	Date of Birth	13/03/1979
ID number Social Security, Passport	50114964B		
URL Web			
Email Address	mc.terradas@csic.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-5010-644X		

A.1. Current position

Job Title	Científico Titular/ Tenure track scientist		
Starting date	2017		
Institution	Consejo Superior de Investigaciones Científicas		
Department / Centre	Energía, Medio Ambiente y Salud / Instituto de Ciencia de Materiales de Madrid		
Country		Phone Number	
Keywords	Gels, hidrogels, aerogels; Biopolymers; Amorphous; Ceramics; Nanomaterials; Biocompatible materials; Biomaterials; Therapeutics; Laboratoy animals; Cell culture; Tissue culture		

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2014 - 2017	Investigador Postdoctoral Miguel Servet I / Instituto de Salud Carlos III
2010 - 2013	Investigador postdoctoral Juan de la Cierva / Instituto de Ciencia de Materiales de Madrid
2008 - 2010	Investigador postdoctoral / Northwestern University - McCormick School of Engineering and Applied Science - Biomedical Engineering Department
2007 - 2008	Investigador postdoctoral / Universidad Complutense de Madrid
2003 - 2006	Estudiante predoctoral (Beca FPU) / Universidad Complutense de Madrid
2005 - 2005	Estudiante predoctoral / Northwestern University - McCormick School of Engineering and Applied Science - Biomedical Engineering Department

A.3. Education

Degree/Master/PhD	University / Country	Year
Programa Oficial de Doctorado en Bioquímica y Biología Molecular	Universidad Complutense de Madrid	2006
Licenciado en Biología Opción Biología Sanitaria	Universidad Complutense de Madrid	2002

Part B. CV SUMMARY

Since my early steps as a researcher back in 2003, my research is being focused on the design and development of biomaterials for biomedical applications including a wide range of materials (ceramics, polymers, hydrogels, elastomers, carbon nanotubes, graphene, etc) and applications (neural regeneration, congenital cardiovascular pathologies, atherosclerosis, osteoporosis, bone cancer). At the Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), I have been responsible for the set-up and functioning of three cell-tissue culture laboratories

(one of them being the first at ICMM back in 2011). The current one is validated as biosafety level 2 cell culture laboratory. I have been granted with a FPU predoctoral fellow from the MEC of Spain (2003-2006), a postdoctoral contract abroad from the MICINN of Spain (2008-2010), a Juan de la Cierva postdoctoral contract from the MINECO of Spain (2010-2013) and a Miguel Servet I postdoctoral contract from the ISCIII of Spain (2014-2017). Since March 2017, I joined CSIC as a Tenured Scientist (Científico Titular) at ICMM-CSIC in the research topic of Materials for Health. I have been PI of the following projects: PID2020-113480RB-I00 (217.8 k€) and MAT2016-78857R (121 k€) from MINECO (Plan Nacional, Retos de la Sociedad), leader of wockpackage 3 and PI of CSIC team in the European Project FET-OPEN-RIA ByAxon (GA. 737116, 3.7 M€ total budget, 210 k€ for CSIC team), PIE202160E060 (19 k€) and 201760I091 (5 k€) from CSIC and MS13/00060 (120 k€) from Instituto de Salud Carlos III. I have been responsible for the creation of the Joint Research Unit of I+D+i with CSIC “Design and development of biomaterials for neural regeneration” of the Hospital Nacional de Parapléjicos (25/07/2017- to date; first positive renewal in 2020). Since March 2019, I am an Associate Editor of the journal "Bioactive Materials" (IF 2019: 14.12; http://www.keaipublishing.com/en/journals/bioactive-materials/). I have co-authored over 65 publications in scientific journals (mostly Q1) from the areas of Materials Science, Biomaterials and Chemistry, Multidisciplinary; and more than 90 communications to national and international conferences, besides being actively involved in outreach activities. I have supervised 1 PhD thesis (Ana Domínguez Bajo, Universidad Complutense de Madrid, Sobresaliente cum laude, 21/12/2020; co-supervision with Dr. E. López) and I am currently supervising three PhD students: (1) André Girão, Universidade de Aveiro, co-supervised with Prof. P. Marques, 2022; (2) Ana Arché, Universidad Autónoma de Madrid, co-supervision with Dr. M.T. González, 2023; and (3) Esther Benayas, Universidad Autónoma de Madrid, 2025. I have got FAVORABLE recognition of 2 Sexenios de Investigación (2004-2015) by Comisión Nacional Evaluadora de la Actividad Investigadora (Ministerio de Ciencia, Innovación y Universidades) (06/06/2018) (one more under evaluation) and 3 Quinquenios (Componente por Méritos Investigadores del Complemento Específico) (2003-2017) by CSIC (MINECO) (12/06/2018).

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1 **Scientific paper**. Ana Domínguez-Bajo; Juliana M. Rosa; Ankor González-Mayorga; et al;. 2021. Nanostructured gold electrodes promote neural maturation and network connectivity Biomaterials. Elsevier. 279, pp.121186. https://doi.org/10.1016/j.biomaterials.2021.121186

2 **Scientific paper**. André Girão; Joana Sousa; Ana Domínguez-Bajo; et al;. 2020. 3D Reduced Graphene Oxide Scaffolds with a Combinatorial Fibrous-Porous Architecture for Neural Tissue Engineering ACS Applied Materials and Interfaces. ACS. 12, pp.38962-38975. https://doi.org/10.1021/acsami.0c10599

3 **Scientific paper**. María Fortes Brollo; Ana Domínguez-Bajo; Andrea Tabero; et al;. 2020. Combined Magnetoliposome Formation and Drug Loading in One Step for Efficient Alternating Current-Magnetic Field Remote- Controlled Drug Release ACS Applied Materials and Interfaces. ACS. 12, pp.4295-4307. SCOPUS (6) https://doi.org/10.1021/acsami.9b20603

4 **Scientific paper**. Ana Domínguez-Bajo*; Ankor González-Mayorga; Elisa López-Dolado; Carmen Munuera; Mar García-Hernández; M. Concepción Serrano*. 2020. Graphene Oxide Microfibers Promote Regenerative Responses after 2 Chronic Implantation in the Cervical Injured Spinal Cord ACS Biomaterials Science and Engineering. ACS. 6, pp.2401-2414. SCOPUS (2) https://doi.org/10.1021/acsbiomaterials.0c00345

5 **Scientific paper**. Laura Casarrubios; Natividad Gómez-Cerezo; Sandra Sánchez-Salcedo; et al;. 2020. Silicon substituted hydroxyapatite/VEGF scaffolds stimulate bone regeneration in osteoporotic sheep Acta Biomaterialia. Elsevier. 101, pp.544-553. SCOPUS (7) https://doi.org/10.1016/j.actbio.2019.10.033

6 **Scientific paper**. A. Domínguez-Bajo; A. González-Mayorga; C.R. Guerrero; F.J. Palomares; R. García; Elisa López-Dolado; M.C. Serrano*. 2019. Myelinated axons and functional blood vessels populate mechanically compliant rGO foams in chronic cervical hemisected rats Biomaterials. Elsevier. 192, pp.461-474. SCOPUS (18) https://doi.org/10.1016/j.biomaterials.2018.11.024

7 **Scientific paper**. Elisa López-Dolado; Ankor González-Mayorga; M. Concepcion Gutierrez; M. Concepcion Serrano (*). 2016. Immunomodulatory and angiogenic responses induced by graphene oxide scaffolds in chronic spinal hemisected rats Biomaterials. Elsevier. 99, pp.72-81. SCOPUS (36) https://doi.org/10.1016/j.biomaterials.2016.05.012

8 **Scientific paper**. Maria Concepcion Serrano (*); Maria Concepcion Gutierrez; Francisco del Monte. 2014. Role of polymers in the design of 3D carbon nanotube-based scaffolds for biomedical applications Progress in Polymer Science. Elsevier. 39, pp.1448-1471. SCOPUS (60) https://doi.org/10.1016/j.progpolymsci.2014.02.004

9 **Scientific paper**. Daniel Carriazo; M. Concepcion Serrano; M. Concepcion Gutierrez; M. Luisa Ferrer; Francisco del Monte. 2012. Deep eutectic solvents playing multiple roles in the synthesis of polymers and related materials Chemical Society Reviews. Royal Society of Chemistry. 41, pp.4996-5014. SCOPUS (406) https://doi.org/10.1039/c2cs15353j

10 **Scientific paper**. Stefania Nardecchia; corresponding author; M. Concepcion Gutierrez; M. Teresa Portoles; corresponding author; Francisco del Monte. 2012. Osteoconductive performance of carbon nanotube scaffolds homogeneously mineralized by flow-through electrodeposition Advanced Functional Materials. Wiley-VCH. 22, pp.4411. SCOPUS (38) https://doi.org/10.1002/adfm.201200684

11 **Scientific paper**. first-author; first-author; Robert van Lith; Guillermo A. Ameer. 2012. Polymer-based nitric oxide therapies: recent insights in biomedical applications Advanced Functional Materials. Wiley-VCH. 22, pp.239-260. SCOPUS (98) https://doi.org/10.1002/adfm.201101707

12 **Scientific paper**. M. Concepcion Serrano; Luis Carbajal; Guillermo A. Ameer. 2011. Novel biodegradable shape-memory elastomers with enhanced drug release capabilities Advanced Materials. Wiley-VCH. 23, pp.2211-2215. SCOPUS (117) https://doi.org/10.1002/adma.201004566

13 **Book chapter**. Elisa López-Dolado (Ed.); M. Concepción Serrano (Ed.). 2022. Book co-editor and co-author of Chapter 1 and 3 Engineering Biomaterials for Neural Applications: Targeting Traumatic Brain and Spinal Cord Injuries. Springer-Nature. ISBN 978-3-030-81399-4.

C.3. Research projects and contracts

1 **Project**. Smart magnetic bio-implants for neural regeneration: Application to spinal cord injury (PID2020-113480RB-I00). Ministerio de Ciencia e Innovación. M. Concepción Serrano. (Instituto de Ciencia de Materiales de Madrid). 01/09/2021-31/08/2024. 217.800 €.

2 **Project**. MAxillofacial bone Regeneration by 3D-printed laser-activated Graphene Oxide scaffolds (MARGO) Joint Transnational Call - FLAG-ERA 2019. Ministerio de Ciencia e Innovación. Universidades. Cefe López (IP). (Instituto de Ciencia de Materiales de Madrid). 01/05/2020-31/12/2023. 150.000 €.

3 **Project**. Biomaterials for Neural Regeneration (Ref. PIE202160E060). (ICMM-CSIC). 01/10/2021-30/09/2022. 19.218 €.

4 **Project**. Towards an active bypass for neural reconnection (GA 737116). European Commision (FET-OPEN-RIA 2016/17 Call). M. Concepción Serrano (WP3 Leader PI ICMM). (Instituto de Ciencia de Materiales de Madrid). 01/01/2017-31/12/2020. 210.000 €.

5 **Project**. Diseño y desarrollo de un biomaterial 3D bioactivo de óxido de grafeno funcionalizado para el tratamiento de la lesión medular (MAT2016-78857-R). Ministerio de Economía, Industria y Competitividad. M. Concepción Serrano (PI). (Instituto de Ciencia de Materiales de Madrid). 30/12/2016-31/12/2020. 121.000 €.

6 **Project**. Desarrollo de estructuras 3D basadas en grafeno y biofuncionalizadas para la reparación de sistema nervioso central (MS13/00060). Instituto de Salud Carlos III. María Concepción Serrano (PI). (Hospital Nacional de Parapléjicos). 01/01/2014-16/03/2017. 120.000 €.

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

EP20382637.5. BIDIRECTIONAL MEDICAL DEVICES FOR MONITORING AND STIMULATING NEURONS Spain. 16/07/2020. IMDEA NANOCIENCIA (40%), SISSA (20%), CNRS (20%), CSIC (10%) & SESCAM (10%).