CV Date	31/05/2022

Part A. PERSONAL INFORMATION

First Name	Fernando		
Family Name	Herranz Rabanal		
Sex	Male	Date of Birth	20/02/1976
ID number Social Security, Passport			
URL Web	https://nanomedmol.com/		
Email Address			
Open Researcher and Contributor ID (ORCID)	0000-0002-3743-0050		

A.1. Current position

Job Title	Científico Titular		
Starting date	2021		
Institution	Consejo Superior de Investigaciones Científicas		
Department / Centre			
Country		Phone Number	
Keywords	Sensors; Nanomaterials; Biomedicine		

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

Period	Job Title / Name of Employer / Country
2012 - 2018	Senior postdoctoral researcher / Fundación CNIC Carlos III
2013 - 2018	Assitant lecturer / Universidad Carlos III de Madrid
2009 - 2012	Postdoctoral researcher / Universidad Complutense de Madrid
2007 - 2009	Research Associate / Imperial College London
2007 - 2007	Postdoctoral researcher / Universidad Complutense de Madrid
2006 - 2006	Investigador Postdoctoral / Centro de Biología Molecular Severo Ochoa
2001 - 2006	Predoctoral / Universidad Nacional de Educación a Distancia

A.3. Education

Degree/Master/PhD	University / Country	Year
Bioorganic chemistry PhD	Universidad Nacional de Educación a Distancia	2006
Chemistry BSc	Universidad Complutense de Madrid	2000

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**. Jose M. Adrover; Juan Pellico; Irene Fernández-Barahona; Sandra Martín-Salamanca; Jesús Ruiz-Cabello; Andrés Hidalgo; Fernando Herranz. 2020. Thrombo-tag, an in vivo formed nanotracer for the detection of thrombi in mice by fast pre-targeted molecular imaging Nanoscale. 12, pp.22978-22987.

2 **Scientific paper**. Belen Martinez-Gualda; Irene Fernandez-Barahona; Alberto Mills; et al;. 2022. Organotropic dendrons with high potency as HIV-1, HIV-2 and EV-A71 cell entry inhibitors European Journal of Medicinal Chemistry. 237, pp.114414.

3 **Scientific paper**. Jaume Gazquez; Alba Grayston; Mariana Teles; Fernando Herranz; Nerea Roher; Anna Roig; Marti Gich. 2022. Magnetic Mesoporous Silica Nanorods Loaded with Ceria and Functionalized with Fluorophores for Multimodal Imaging ACS Applied Nano Materials. 5-2, pp.2113-2125.

4 **Scientific paper**. Susana Carregal-Romero; Hugo Groult; Olga Cañadas; et al;. 2021. Delayed alveolar clearance of nanoparticles through control of coating composition and interaction with lung surfactant protein A Materials Science & Engineering C. in press.

5 **Scientific paper**. Juan Pellico; Irene Fernández-Barahona; Jesús Ruiz-Cabello; et al;. 2021. HAP-Multitag, a PET and Positive MRI Contrast Nanotracer for the Longitudinal Characterization of Vascular Calcifications in Atherosclerosis ACS Applied Materials & Interfaces. 13, pp.45279-45290.

6 **Scientific paper**. Sara Díez-Villares; Juan Pellico; Noemi Gómez-Lado; et al;. 2021. Biodistribution of 68/67Ga-Radiolabeled Sphingolipid Nanoemulsions by PET and SPECT Imaging International Journal of Nanomedicine. 16, pp.5923-5935.

7 **Scientific paper**. Eva Mazarío; Magdalena Cañete; Fernando Herranz; Jorge Sánchez-Marcos; Jesús M. de la Fuente; Pilar Herrasti; Nieves Menendez. 2021. Highly Efficient T2 Cobalt Ferrite Nanoparticles Vectorized for Internalization in Cancer Cells Pharmaceuticlas. 14, pp.124.

8 **Scientific paper**. Sara Cogliati; Fernando Herranz; Jesús Ruiz-Cabello; Jose A Enríquez. 2021. Digitonin concentration is determinant for mitochondrial supercomplexes analysis by BlueNative page BBA - Bioenergetics. 1862, pp.148332.

9 **Scientific paper**. Fernando Herranz; David García-Soriano; Rebeca Amaro; et al;. 2020. The influence of cation incorporation and leaching in the properties of Mn-doped nanoparticles for biomedical applications Journal of Colloid and Interface Science. 578, pp.510-521.

10 **Scientific paper**. Yilian Fernández-Alfonso; Gorka Salas; Irene Fernández-Barahona; Fernando Herranz; Cordula Grüttner; Jesús Martínez De la Fuente; María del Puerto Morales; Lucía Gutiérrez. 2020. Smartphone-Based Colorimetric Method to Quantify Iron Concentration and to Determine the Nanoparticle Size from Suspensions of Magnetic Nanoparticles Particle & Particle Systems Characterization. pp.10.1002/ppsc.202000032.

11 **Scientific paper**. Yurena Luengo; Manuel A. Roldan; María Varela; Fernando Herranz; M. Puerto Morales; Sabino Veintemillas-Verdaguer. (4/6). 2019. Doped-Iron Oxide Nanocrystals Synthesized by One-Step Aqueous Route for Multi-Imaging Purposes --Journal of Physical Chemistry C--. 123, pp.7356-7365.

12 **Scientific paper**. Irene Fernandez-Barahona; Lucia Gutierrez; Sabino Veintemillas-Verdaguer; et al; (AC). (9/9). 2019. Cu-Doped Extremely Small Iron Oxide Nanoparticles with Large Longitudinal Relaxivity: One-Pot Synthesis and in Vivo Targeted Molecular Imaging -- ACS Omega --. 4, pp.2719-2727.

13 **Scientific paper**. Carlos Velasco; Adriana Mota-Cobián; Rubén A. Mota; et al; ;. (5/10). 2019. Quantitative assessment of myocardial blood flow and extracellular volume fraction using 68Ga-DOTA-PET: a feasibility and validation study in large animals --Journal of Nuclear Cardiology--. in press.

14 **Scientific paper**. Juan Pellico; Irene Fernández-Barahona; Marina Benito; Angel Gaitan-Simon; Lucia Gutierrez; Jesus Ruiz-Cabello; (AC). (7/7). 2019. Unambiguous detection of atherosclerosis using bioorthogonal nanomaterials -- Nanomedicine: Nanotechnology, Biology and Medicine --. 17, pp.26-35.

15 **Scientific paper**. Juan Pellico; Ana V. Lechuga-Vieco; Elena Almarza; et al; (AC). (11/11). 2018. Molecular imaging with nanoparticles: specific in vivo detection of neutrophils --Archivos de Bronconeumologia--. 54, pp.1-7.

16 **Scientific paper**. Hugo Groult; Isabel García-Álvarez; Lorenzo Romero-Ramírez; Manuel Nieto-Sampedro; Fernando Herranz; Alfonso Fernández-Mayoralas; Jesús Ruiz-Cabello. (5/7). 2018. Micellar Iron Oxide Nanoparticles Coated with Anti-Tumor Glycosides --Nanomaterials--. 8, pp.567.

17 **Scientific paper**. Ana V. Lechuga-Vieco; Hugo Groult; Juan Pellico; Jesus Mateo; Jose A. Enriquez; Jesus Ruiz-Cabello; (AC). (7/7). 2018. Protein corona and phospholipase activity drive selective accumulation of nanomicelles in atherosclerotic plaques --Nanomedicine: Nanotechnology, Biology and Medicine--. 14-3, pp.643-650.

18 **Scientific paper**. Juan; Ana V Lechuga-Vieco; Elena; et al; (AC). (10/10). 2017. In vivo imaging of lung inflammation with neutrophil-specific 68Ga nano-radiotracer --Scientific Reports--. Nature Publishing Group. 7, pp.13242.

19 **Scientific paper**. Juan Pellico; Jesus Ruiz-Cabello; Irene Fernández-Barahona; Lucia Gutierrez; Ana V. Lechuga-Vieco; Jose A. Enriquez; M. Puerto Morales; (AC). (8/8). 2017. Modulating nanoparticle coating thickness during one-step fast synthesis determines T1 versus T2 MRI performance --Langmuir--. 33, pp.10239.

20 **Scientific paper**. Hugo; Nicolas; Fernando; et al;. (3/10). 2017. Family of bioactive heparins-coated iron oxide nanoparticles with positive contrast in magnetic resonance imaging for specific biomedical applications --BioMacromolecules--. American Chemical Society. 18, pp.3156.

21 **Scientific paper**. Ruben A Mota; Carlos; Jesus; Arnoldo; Adriana; Fernando; Juan; Samuel. (6/8). 2017. Assessment of regional pulmonary blood flow using 68Ga-DOTA PET --European Journal of Nuclear Medicine and Molecular Imaging Research--. in press.

22 **Review**. Juan Pellico; Fernando Herranz; Jesús Ruiz-Cabello; María Muñoz-Hernando; Irene Fernández-Barahona. 2020. Iron Oxide Nanoparticles□: An Alternative for Positive Contrast in Magnetic Resonance Imaging Inorganics. 8-28, pp.10.3390/inorganics8040028.

23 **Bibliographic review**. Irene Fernández-Barahona; María Muñoz-Hernando; Juan Pellico; Jesús Ruiz-Cabello; (AC). (5/5). 2018. Molecular Imaging with 68Ga Radio-Nanomaterials: Shedding Light on Nanoparticles --Applied Sciences--. 8, pp.1098.

C.3. Research projects and contracts

1 **Project**. Nanomedicine CSIC Hub. (Consejo Superior de Investigaciones Científicas). 01/07/2021-30/06/2024. 350.000 €. Co-ordinator.

2 **Project**. PID2019-104059RB-I00, Nanoparticles for in vivo positive contrast in MRI: application to the diagnosis and characterization of atherosclerosis. Ministerio de Economia y Competitividad. Fernando Herranz. (Instituto de Química Médica). 01/06/2020-31/05/2024. 145.000 €. Principal investigator.

3 **Project**. RED2018-102469-T, Nanomedicine network for the diagnosis and treatment of diseases with deep social impact: cancer, atherosclerosis and infectious diseases. (Instituto de Química Médica). 02/12/2019-01/12/2021. 15.000 €. Co-ordinator.

4 **Project**. AC17/00062, Subclinical atherosclerosis characterization: Nanoparticle-based molecular and cellular imaging. ERA-CVD. (Fundación CNIC Carlos III). 22/05/2018-21/05/2021.

5 **Project**. SAF2016-79593-P, Multiple identification of vulnerable atherosclerosis: hybrid molecular imaging and specific nano-radiotracers.. Ministerio de Economia y Competitividad. Fernando Herranz. (Instituto de Química Médica). 30/12/2016-31/07/2020. 175.450 €. Principal investigator.

6 **Project**. HYPERNANO, Early detection of pulmonary hypertension with nanotechnology-based sensors. CIBER BIOINGENIERIA BIOMATERIALES Y NANOMEDICINA (CIBER-BBN). (Fundación CNIC Carlos III). 01/11/2017-01/05/2019. 22.000 €. Co-ordinator.

7 **Project**. DTS16/00059, Multiple detection of atherosclerosis: cardioNanoGOLD. Fondo de Investigación Sanitaria. Fernando Herranz. (Fundación CNIC Carlos III). 01/01/2017-31/12/2018. 44.000 €. Principal investigator.

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

1 **Patent of invention**. Juan Pellico; Riju Bhavesh; Jesús Ruiz-Cabello; Fernando Herranz. EP14382301.1. Single core radionuclide-metal oxide nanoparticles: a new biocompatible nanosystem for dual hot spot imaging Spain. 31/07/2014. Fundación CNIC Carlos III.

2 Hugo Groult; Jesús Ruiz-Cabello; Fernando Herranz. EP14382093.4. Nanoparticles with antitumoral activity Spain. 17/03/2014. Fundación CNIC Carlos III.

3 Beatriz Salinas; Jesus Ruiz-Cabello; Fernando Herranz. P201231038. Nanopartículas recubiertas de gelatina Spain. 03/07/2012. Fundación CNIC Carlos III.