Part A. Personal Information

DATE	13/3/2017

Surname(s)	LAROMAINE SAGUÉ	
Forename	ANNA	
Social Security, Passport, ID number	77917303L	
Sex	FEMALE	
Age	38	
Researcher numbers	Researcher ID	D-1964-2009
	Open Researcher and Contributor ID (ORCID)	0000-0002-4764-0780

A.1. Current position

Post/ Professional Category	INVESTIGADORA DISTINGUIDA	
UNESCO Code	2303.04, 3312.99, 2301.02, 2302.24, 2211.28	
Key Words	nanoparticles, c. elegans, cellulose, in vitro, bio interfaces, materials híbrids	
Name of the University/Institution	NSTITUTO CIENCIA DE MATERIALS DE BARCELONA- CSIC	
	Department/Center	GRUPO NANOPARTICLES AND NANOCOMPOSITES
	Full Address	CAMPUS UAB
	Email Address	ALAROMAINE@ICMAB.ES
	Phone Number	935801853
Start date	1/07/2016	

A.2. Education *(title, institution, date)*

2000	Universidad de Girona	*Chemistry Degree*	*Chemists*
2005	Universidad Autónoma de Barcelona	*PhD Chemistry*	*PhD chemistry*
2016	*University Pompeu Fabra*	*Master Business administration*	*MBA*

A.3. Indicators of Quality in Scientific Production *(See the instructions)*

6 PhD thesis within the last 3 years, (3 ended, 3 in progress), 7 Master Thesis, more than 12 undergraduate students.
Publications 36 + 2 sent+ 2 preparation; Citations total:928 , Citations averaged by publications: 26; Patents:7, H=15.

Part B. Free Summary of CV *(Max. of 3.500 characters, including spaces)*

My scientific work is interdisciplinary encompassing chemistry, materials science and biology and inspired by my work experience at world leading institutions in three different continents. My research steps are intrepid, innovative and solid from synthesis of materials to cell cultures pushing the state of the art while blending disciplines. I strongly believe on the power of scientists to speed the translation of materials to a final product and its potential to run the world-economies. During my trajectory I developed different platforms and methodologies: at the graduate level I improved the production of the anion cluster RCB9H10 (Angew. Chem. 2005) exhibiting my proficiency in synthetic chemistry; at Imperial College a system combining AuNPs and peptides as a novel protease sensor method for medical applications (JACS 2007), which this proof of concept spurred the development of a new biosensor methodology, highlighted in Nature News as point-of-care for a number of protease-related diseases. In Harvard I worked in the development of a simple and fast methodology to create 3D-paper supported cell cultures (PNAS 2010), being featured in Nature Methods and Biotechniques, and a company emerged from this applied and cutting edge research.
This shift towards biology shows my motivation, underscoring potential to combine chemistry and materials science for medical applications and to work at the frontier of both disciplines.
Currently I work with cellulose materials and its composites for a variety of applications and the use of *C. elegans* to assess and optimized nanoparticles. We study the interaccion of nanoparticles with biological material (cells in cellulose structures or using the worm C. elegans) We use novel biocompatible approaches to develop new materials multifunctionals in a economical and low environmental impact.

Part C. Accomplishments *(Order by typology)*

C.1. Publications

1. In vivo testing of gold nanoparticles using the Caenorhabditis elegans model organism. Gonzalez-Moragas, L.; Berto, P.; Vilches, C.; Quidant R., Kolovou A., Santarella-Mellwig R, Schwab A., A. Roig*, A. Laromaine* Acta Biomaterialia 2017, in press doi:10.1016/j.actbio.2016.07.024.

2. Bio-identity and fate of albumin-coated SPIONs evaluated in cells and by the C. elegans model S-M, Yu,L. González-Moragas,M. Milla,A. Kolovou, R. Santarella-Mellwig, Y. Schwab, A. Laromaine*, A. Roig* Acta Biomaterialia 2016, 43, 348-357 doi:10.1016/j.actbio.2016.07.024.

3. Protective effects of Bovine Serum Albumin on superparamagnetic iron oxide nanoparticles evaluated in the nematode Caernorhabditis elegans. Laura Gonzalez-Moragas, Si-Ming Yu, Elisa Carenza, Anna Laromaine*, Anna Roig, ACS Biomaterials Science and Engineering. dx.doi.org/10.1021/acsbiomaterials.5b00253.

4. Scale-up synthesis of iron oxide nanoparticles by microwave-assisted thermal decomposition L. Gonzalez-Moragas, S. Yu, N. Murillo-Creames, A. Laromaine A.Roig. Chem. Eng. J. 2015, 281, 87-95.

5. C. elegans as a tool for in vivo nanoparticle assessment L. González- Moragas, A. Roig, A. Laromaine,* Adv. Colloids and Interface Science, 2015. DOI: 10.1016/j.cis.2015.02.001. IF: 8.636. F: Q1, 12/136th Chemistry, Physical.

6. Bacterial Cellulose Films: Influence of bacterial strain and drying route on film properties M. Zeng, A. Laromaine,* A. Roig*. Cellulose, 2014, 21, 6, 4455-4469. IF: 3.03 F: Q1, 1/21th Materials Science, Paper and Wood.

7. Origami magnetic cellulose: controlled magnetic fraction and patterning of flexible bacterial cellulose M. Zeng,. A. Laromaine,*. W. Feng,. P.l A. Levkin,. A.Roig* J. Mat Chem C, 2014, 2, 6312-6318. F: Materials Science. Citas:1

8. Enhanced stability of superparamagnetic iron oxide nanoparticles in biological media using a pH adjusted-BSA adsorption protocol SM Yu, A. Laromaine*, A. Roig* J. Nanoparticle Research 2014, 16, 7, 2484. IF:2.278, F: Q1, 59/251th Materials Science, Multidisciplinar.

9. Paper-Supported 3D Cell Culture for Tissue-Based Bioassays, R. Derda, A. Laromaine, Akiko Mamoto, S. Tang, T. Mammoto, D. Ingber, G. M. Whitesides. Proc. Natl. Acad. Sci. 2010, 106, 44, 18457-18462. IF:9.809, F: Q1, 4/ 56 Multidisciplinary sciences. Citas: 100
Highlighted in en Nature Methods 2009, 6, 12, 865.

10. Protease-triggered dispersion of nanoparticles assemblies. A. Laromaine, L. Koh, M. Murugesan, R. V. Ulijn, M. M. Stevens, J.Am.Chem.Soc. 2007, 129(14): 4156-4157. DOI: 10.1021/ja0706504. IF:11.444, F:Q1, 11th/ 152 Cemistry, multidisciplinary. Citas: 130.
Highlighted in Nature News doi:10.1038/news.2010.14.

C.2. Research Projects and Grants

Projects applied as Principal Investigator (achieved)

- "Three-dimensional in vitro environments of Nanoparticles &Cells" Ramon y Cajal startup, May2011-May2013. 15.000€. IP
- "Interactions in Three-dimensional (3D) in vitro environments of Nanoparticles and Cells" Marie Curie Career Integration Grants (CIG), Call: FP7-PEOPLE-2011-CIG. (100.000 €)
-MicroMedia Grant- Marie Curie Alumni (IP) 250 €.

Projects applied as Principal Investigator (not achieved)

- "Interaction of NanoParticles with biological barriers using 3 Dimensional environments: Microfluidic channels, 3D-supported cell cultures and Caenorhabditis elegans" European Research Council-Starting Grant ERC Call: FP7-PEOPLE-2011-ERCStGrant (2nda fase). (1.500.000 €).

Projects as Participant

- FET Open, H2020-FETOPEN-2014-2015-RIA, Paper photonics for diagnosis PI: Andreu Llobera enviado
- -Nanohealing for plants, Explora enviado PI: Núria Sanchez.
-Acción COST Group of C. elegans New Investigators in Europe (GENIE). 2015-2019. BM1408.
- Marie Curie Iberian-Portugal chapter, co-founder. 1.500€ Sept. 2014- Sept 2015.
-"Advanced preparation techniques of nanoparticles and their biomedical and environmental assessment" (AdvancedNP) Responsable Dr. Anna Roig. MAT2012 35324. (Enero 2013- Diciembre 2016). 105.300 €

- “Rational design of hybrids organic- inorganic interfaces: the next step towards advanced functional materials” (Cost Action MP1202) Responsable Dr. Marie Helene Delville. (2013-2016).
- “Endothelial Progenitor Cells loaded with Superparamagnetic Iron Oxide
Nanoparticles for Neurorepair Therapies” (2011120049) Mistral beam line. Responsable: Dr. Anna Roig y Dr. Anna Rosell.
-Miembro del Grupo de Investigación consolidado en el marco del Pla de Recerca de Catalunya – Generalitat de Catalunya. 2014-SGR-213. Responsable Dr. Anna Roig. 25.000€
-“BioNanoScaffolds for Post-traumatic OsteoRegeneration” DARPA (USA) (January 2009-2011) Responsable Prof. George M. Whitesides.
- “Engineering Nanomaterials for and from Biology” EPSRC April 2007- March 2012. Prof. Molly M. Stevens.

C.3. Contracts

“Synthesis and Characterization of systems based on magnetic nanoparticles, polymers and composites for osmotic processes” (OsmoBlue-ICMAB-CSIC) PI Anna Laromaine.(Jan-Dec 2014).15000 €
Contracts as participant with companies
-Contract con la Fabrica Nacional de la Moneda y Timbre, Título: Nanopartículas en materiales celulósicos de origen vegetal, Desde 10/2014 hasta 04/2015 PI Anna Roig. Dotación económomica:15.000 €.
- Contract con la empresa Graficas Varias, Enero 2014-Oct 2014. PI Anna Roig.

C.4. Patents and other IPR

1. Patent with CRAG. Método para la regeneración de tejidos vegetales dañados. A. Laromaine, N.Sánchez 201630592- 2016-ES.

2. Patent with Imperial Innovations "Particle aggregate, useful for e.g. diagnosing disease or condition associated with enzyme, comprises particles linked to other particles via linkers that are capable of being cleaved by enzyme" Molly M. Stevens, R. Ulijn, A. Laromaine, L. Koh, Priority application no. 0524313.4 filling date 29/11/2005 and lapsed to PCT application no. PCT/GB06/004459 filling date 29/11/2006. WO 2007/063300A2
3. Patent with Harvard university, GM Whitesides, R. Derda, A. Laromaine “Paper- based cellular arrays” (HU-3231)-.2009. En proceso de licenciar en una start- up de Cambridge (MA).

4. Patent with Harvard university, GM Whitesides, C. Mace, A. Laromaine, J. Barber, R. Cademartiri “Alginate Hydrogel Fibers and Related Materials" (HU 3718)-2011.

5. Patent with Harvard university, GM Whitesides, A. Laromaine, C. Mace, A. Reina, R. Derda, E. Hulme, K. Mirica, “Density analysis of living organisms by magnetic levitation".

6. An Apparatus and Method for Generating Energy. E. Dahan, A. Laromaine. Suiza. 2011-CH1468. PCT. Licenciada a OsmoBlue.

7. Patent with Harvard university, HU4550 GM Whitesides, A. Laromaine, R. Derda, E. Lee, “Biomineralization on paper scaffolds".

C.5, C.6, C.7… Other

C.5 BOOK CHAPTER
Organic Nanomaterials: Synthesis, Characterization and Device Applications. Authors: Edited by Tomas Torres and Giovanni Bottari. Wiley CH. Contribution by a chapter: Self-Assembled Monolayers as Model Biosurfaces. A. Laromaine, C. R. Mace. ISBN: 978-1-118-01601-J. DOI: 10.1002/978118354377.

C.6 CONFERENCE ORGANIZATION- WORKSHOP
- Organizing committee Summer School MATBIO2017, 19-22th June 2017, ICMAB.
-Comité organizador del Scientific Workshop on Biomedical, Health and Bio-Relatedapplications of Hybrid Materials- HINT BCN dentro del proyecto HINT COST. 8-9 Junio 2015, ICN2-ICMAB, Bellaterra.

C.7 TEACHING
- Otoño 2011- 2016, Profesora en el curso del Máster de Nanotecnología de la UAB (Barcelona) y Coordinadora del bloque de Nanomedicina y Biomateriales del máster (años 2011-2013). http://www.uab.es/servlet/Satellite/estudiar/masteres-oficiales/informacion-general-1096480309770.html?param1=1307340015800

C.8Institutional Responsabilities and Comissions
Feb17- Institutional Representative of CSIC at the Nanotechnology Fair (Tokyo 15-17Feb17)
2016-now Member Commission responsible for the Training and Scientific Dissemination of ICMAB
2011-now Member of the Health and Safety Commission of ICMAB
2014 Funding member of the Spanish Marie Curie chapter.

C. 9 STUDENTS SUPERVISION
UNDERGRADUATES- 18 students since 2009- 2016.
MASTER STUDENTS- 5 students since 2006-2016.
PHD STUDENTS

- Co-supervisión Dr. Liling Koh. "Investigations of bio-responsive peptide inorganic nanomaterials" (Imperial College 2005-2008).
- Co-dirección Muling Zeng, beca Gobierno de China CSC, (2011-2014); Siming Yu, beca Gobierno de China CSC, (2012- 2015); Laura González, beca FPU (2013-2016); Irene Anton beca FPU (inicio 2016), Soledad Roig beca FPI (inicio 2016)
- Dirección beca Gobierno China CSC (inicio 2016).

C. 10 FELLOWSHIPS AND AWARDS
Oct14- Fellowship to pursue MBA at the UPF Business Management School.
May11-April16 Tenure Track Ramón y Cajal competitive contract MICINN (Spain).
Sept08-Sept09 Fulbright Postdoc. Fellowship Catalan Government (Spain-USA).
June06-June08 Postdoc. Beatriu de Pinós Catalan Government (Spain).
Sept-Oct06 Travel Bursary from OSI Oxford University (UK).
Feb06-Jun06 Postdoc. for Nanotechnology Research Catalan Government (Spain).
Sept02-Sept04 Predoc. for specialized research lines with industrial interest CSIC (Spain).
Sept00-Sept02 Predoc. MEC and specialized research lines with industrial interest CSIC (Spain).
Awards July16 Fellow l´Oreal for Women in Science
March14 Femtalent award to the Emerging Talent.
Nov07 Extraordinary Award of Doctorate awarded by UAB (Barcelona).

C.11 OUTREACH
Dec16 Dissemination article about our research in the Muyinteresante journal.
April16 Speaker at the Festival 10alamenos9 for Nanoscience and Nanotech. dissemination.
March15 Scientist of the month selected by AMIT.
Feb14 Scientific seminar in the Manuel Arroyo Awards III.
2014 TV program about paper in the national Catalan TV3, in Quèquicom.
2011-now Participation in the program "A researcher at your school".
May14- E-MRS awarded to this project a distinction as outreach program.
Fall 2010. Volunteer in Science and Cooking Course (Harvard Univ.).
Women in Science Activities
2016 Winner of the prize For Women in Science from Foundation l´Oreal.
2011-now "A researcher at your school" (Spain). Researchers visit high-schools, focus young females.
2011 Member of AMIT, promotes science and divulgates women talent to the society.
2010 Mentor young female students in the Project Ariadna from Catalan Government.
2009-2010 Participation in the MRSEC program to introduce female researchers in the US.