

Date of the CVA	12/05/2019
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Section A. PERSONAL DATA

Name and Surname	Alejandro Lapresta Fernández		
DNI	74658684V	Age	40
Researcher's identification number	Researcher ID	K-9138-2016	
	Scopus Author ID	11939992500	
	ORCID	0000-0002-0641-9887	

A.1. Current professional situation

Institution	University of Granada		
Dpt. / Centre	Analytical Chemistry / Faculty of Sciences		
Address	Avda. de Fuente Nueva s/n, 18071, Granada		
Phone	958240796	Email	lapresta@ugr.es
Professional category	Assistant Professor	Start date	2018
UNESCO spec. code	230000 - Chemistry		
Keywords	Sensors; Biomedicine		

A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
CIENCIAS (QUIMICAS)	University of Granada	2007
Diploma de Estudios Avanzados	University of Granada	2004
BACHELOR DEGREE in chemistry	University of Granada	2002

A.3. General quality indicators of scientific production

h-index: 15 (Scopus) (November 2018)

i10-index: 21 (Google Scholar)

Citations: 755 total citations by 652 documents(Scopus)

Citations: 913 total citations (Google Scholar)

Publications (IF): peer review papers: 28 (Corresponding author: 9) + 3 proceedings + 1book (Thesis) + 2 book chapters

First quartile (Q1-25%): 24 out of a total of 28

First decile (D1-10%): 12

Research Projects participation: 12 research projects (10 National (1 as PI), 2 International (1 as PI))

Supervised doctoral thesis: 1 + 4 trainings

Section B. SUMMARY OF THE CURRICULUM

I hold a PhD in Chemistry (Summa Cum laude, 2007) by the UGR funded with a 4 years FPI fellowship, developing rapid methods of analysis in large array of multianalyte optical sensors, (supervisor: L.F. Capitán-Vallvey). After that, I obtained a Marie Curie Fellowship (ToK,FP6,2008-10) at Friedrich-Schiller-Universität (Jena-Germany) (Supervisor Dr.Gerhard J.Mohr) to develop fluorescent nanosensors for pH, ATP, drugs based on iron oxide@silica and acrylamide derivates and co-supervision of a PhD student.

In 2010 I joint to The Institute of Materials Science-CSIC (Sevilla-Spain, Prof.A. Fernández-Camacho group) where I modified the metallic NPs composition to modulate their toxicity mechanisms in aquatic ecosystems. In 2011 I spent a stay in the Inst.Polymers-CSIC (Madrid-Spain, prof. I.Quijada-Garrido) where I broaden my skills in stimuli-responsive polymers (MEO2MA). From 2012-14, I moved to the UGR to develop sensors using spin crossover materials, modulating their particle size and their thermochromic/magnetic responses. In 2013 I was awarded with a CEI-biotic research project to design NIR light-responsive hybrid NPs.

After my paternity leave (Feb´14-Sep´15) I was granted with an Andalucía Talent Hub Marie-Curie-COFUND-FP7 fellowship (Raking#1 final outcome of 209 candidates) to develop my

own research project (Oct'15-Sep'17) based on a novel nanotechnology-based theranostic biomaterial with enhanced optical and loading capacities for controlling and monitoring anticancer drug release in diseased tissue and the design of diagnostic kits. Supervised by Francesco Stellacci (18months-EPFL) and in a return phase by L.F.Capitán-Valley (6months-UGR). At the EPFL, I was responsible of the nanomaterials synthesis labs as well as of the Raman lab (Raman Renishaw).

Nowadays(Since Oct'2018) I got a position as **Assistant Professor** in the department of Analytical Chemistry at the University of Granada

In total, I have performed 87 months of postdoc experience (42 abroad; 45 in Spain) in top class international institutions. In the UGR I am a Team Member in a Research Unit called - Unidad de Química Aplicada a Biomedicina y Medioambiente- awarded (2016) as Scientific Unit of Excellence by the UGR (Supporting program to Excellence Units María de Maeztu).

I have published 28 SCI articles, 12 in the first decile (h-index=15, 755 cites, Scopus), including 1 Trends Anal.Chem. (8.4-IF, Top 25-Most Downloaded-2012), 1 Nanoscale (7.4-IF), 1 Crit.Rev.Solid.State. (6.5-IF) 3 Chem.Comm. (6.3-IF), 3 Sens.Actuators.B.Chem. (5.4-IF), 1 Chem.Eur.J. (5.3-IF), 1 J.Mater.Chem.C (5.2-IF), amongst others, 2 book chapters, being first author in 16 and 9 corresponding author. I participated in 12 research projects (10 National (1 as PI), 2 International (1 as PI)) securing around 175K € as PI, contributing to 46 conferences (3 proceedings), being 37 international (10 oral, 1 as invited) and 9 national (3 oral). Moreover, I have a wide university-lecturing experience (324 hours) with the positive assessment as prof.Contratado Doctor by the ANECA, being coordinator of 2 teaching innovation projects.

I am into the organization committee of 1 national, 1 international conference and in events for training young researchers. I was invited as a member of editorial board of Frontiers and regular reviewer for RSC, Elsevier and Dove medical journals, being also Evaluator for Argentinean FONCyT projects 2012

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

- 1 Scientific paper.** Jose Luis Galindo; et al. 2016. Bulk characterization in a Monte Carlo particle-deposition model with a novel adherence-potential barrier Journal of Applied Physics. AIP (American Institute of Physics). 120, pp.034902.
- 2 Scientific paper.** A. Salinas-Castillo; et al. 2016. Evaluation of a reconfigurable portable instrument for copper determination based on luminescent carbon dots Analytical and Bioanalytical chemistry. Springer. 408-11, pp.3013-3020.
- 3 Scientific paper.** Manuel Pegalajar Cuellar; et al. 2015. Thermochromic sensor design based on Fe(II) spin crossover/polymers hybrid materials and artificial neural networks as a tool in modelling Sensors & Actuators: B.Elsevier. 208, pp.180-187.
- 4 Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2014. Thermoresponsive gold polymer nanohybrids with tunable crosslinked MEO2MA polymer shell Particle & Particle Systems Characterization. 31, pp.1183-1191.
- 5 Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2014. Particle tuning and modulation of the magnetic-color synergy in Fe (II) spin crossover-polymers nanocomposites in a thermochromic sensor array Journal of Material chemistry C. 2, pp.7292-7303.
- 6 Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2014. A General Perspective on the Analysis, Characterization and Quantification of Nanoparticles. Imaging, Spectroscopic and Separation Techniques Critical Reviews in Solid State and Materials Sciences.Taylor & Francis. 39-6, pp.423-458. ISSN 1040-8436.
- 7 Scientific paper.** ; et al. 2014. Microsystem-assisted synthesis of carbon dots with fluorescent and colorimetric properties for pH detection Nanoscale. RSC. 6, pp.6018.
- 8 Scientific paper.** Garcia-Negrete, Carlos Andres; et al. 2013. Behaviour of Au-citrate nanoparticles in seawater and accumulation in bivalve at environmentally relevant concentrations Environmental Pollution. 174, pp.134-141.

- 9 **Scientific paper.** A. Salinas-Castillo; et al. 2013. CARBON dots for copper detection with down and upconversion fluorescent properties as excitation source *Chemical Communications*. 49, pp.1103-1105.
- 10 **Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2013. Photographing the Synergy between Magnetic and Colour Properties in Spin Crossover Material [Fe-(NH₂trz)₃](BF₄)₂: A Temperature Sensor Perspective *Chemical Communications*. 49, pp.288-290. ISSN 1359-7345.
- 11 **Scientific paper.** Lapresta-Fernandez, Alejandro; Gómez-Sanchez, Joaquin; Capitán-Vallvey, Luis Fermín. 2013. Transmission-Mode Scanner for Potassium Determination Using Colourimetric Disposable Sensors *Sensor letters*. 11, pp.368-376. ISSN 1546-198X.
- 12 **Scientific paper.** Lapresta-Fernandez, Alejandro; Fernandez-Camacho, Asuncion; Blasco-Moreno, Julian. 2012. NANOEcotoxicity effects of engineered silver and gold nanoparticles in aquatic organisms *Trends in Analytical Chemistry*. 32, pp.40-59.
- 13 **Scientific paper.** Lapresta-Fernandez, Alejandro; Fernandez-Camacho, Asuncion; Blasco-Moreno, Julian. 2012. Public concern over ecotoxicology risks from nanomaterials: pressing need for research-based information *Environment International*. 39, pp.148-149.
- 14 **Scientific paper.** Lapresta-Fernandez, Alejandro; Capitán-Vallvey, Luis Fermín. 2011. Environmental Monitoring Using a Conventional Photographic Digital Camera for Multianalyte Disposable Optical Sensors *Anal. chim. acta (Print)*. 706, pp.328-337. ISSN 0003-2670.
- 15 **Scientific paper.** Lapresta-Fernandez, Alejandro; Capitán-Vallvey, Luis Fermín. 2011. Evaluation of analytical reflection scanometry as an analytical tool *Analytical methods*. 3, pp.2644-2650. ISSN 1759-9660.
- 16 **Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2011. Magnetic and fluorescent core-shell nanoparticles for ratiometric pH sensing *Nanotechnology*. 22, pp.415501. ISSN 0957-4484.
- 17 **Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2011. Magnetic core-shell fluorescent pH ratiometric nanosensor using a stöber coating method *Anal. chim. acta (Print)*. 707, pp.164-170. ISSN 0003-2670.
- 18 **Scientific paper.** Lapresta-Fernandez, Alejandro; Capitán-Vallvey, Luis Fermín. 2011. Multi-ion detection by one-shot optical sensors using a colour digital photographic camera *Analyst*. 136, pp.3917-3926.
- 19 **Scientific paper.** Moro, Artur J.; et al. 2011. Surface-functionalized fluorescent silica nanoparticles for the detection of ATP *Chemical Communications*. 47, pp.6066-6068.
- 20 **Scientific paper.** Doussineau, Tristan; et al. 2010. On the Design of Fluorescent Ratiometric Nanosensors *Chemistry - A European Journal*. 16, pp.10290-10299. ISSN 1521-3765.
- 21 **Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2009. Fluorescent polyacrylamide nanoparticles for naproxen recognition *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*. 395, pp.1821-1830. ISSN 1618-2642.
- 22 **Scientific paper.** Lapresta-Fernandez, Alejandro; et al. 2009. Multi-Analyte Imaging in One-Shot Format Sensors for Natural Waters *Anal. chim. acta (Print)*. 636-2, pp.210-217. ISSN 0003-2670.
- 23 **Book chapter.** J. Callejas-Fernández; et al. 2014. Experimental Techniques Used For Characterization Of Soft Nanoparticles by Fluorescence. Book Title: *Soft Nanoparticles for Biomedical Applications*. Royal Society of Chemistry. ISBN: 978-1-84973-81.
- 24 **Book chapter.** Capitán-Vallvey, Luis Fermín; et al. 2007. SENSORES ÓPTICOS DE UN SOLO USO HOMENAJE AL PROFESOR DON FERMÍN CAPITÁN : INVESTIGACIÓN ACTUAL EN LA ESCUELA ANALÍTICA DE GRANADA. pp.33-58. ISBN 978-1-61728-653-7.

C.2. Participation in R&D and Innovation projects

- 1 Unidad de Química Aplicada a Biomedicina y Medioambiente University of Granada. Programa de Apoyo a Unidades de Excelencia "María de Maeztu". Luis Fermín Capitán Vallvey. (University of Granada). 01/01/2017-31/12/2020. 30.000 €. Team member.

- 2 CTQ2013-44545-R, DISPOSITIVOS ANALITICOS IMPRESOS SOBRE SUSTRATO FLEXIBLE Ministerio de Economía y Competitividad. Luis Fermín Capitán Vallvey. (University of Granada). 01/01/2014-31/12/2016. 141.570 €.
- 3 CEI2013-P-2, Inclusión de nuevas capacidades sensoras en Tecnología RFID CEI Biotic. Luis Fermin Capitán Vallvey. (University of Granada). 01/01/2013-31/01/2014. 18.000 €.
- 4 P10-FQM-5974, Dispositivos sensores químicos y físicos para envasado inteligente JUNTA ANDALUCÍA. Proyectos de excelencia, 2010. LUIS FERMÍN CAPITÁN VALLVEY. (University of Granada). 01/02/2012-31/01/2014. 186.280 €.
- 5 P06-FQM-01467, Instrumentación portátil con sensores en nanopartículas para análisis químico JUNTA ANDALUCÍA. Proyectos de excelencia, 2006. LUIS FERMÍN CAPITÁN VALLVEY. (University of Granada). 01/01/2006-31/12/2008. 177.536,3 €.
- 6 CTQ2005-09060-C02-01, DESARROLLO DE INSTRUMENTACIÓN PORTÁTIL MULTIANALITO CON SENSORES DE RESPUESTA ÓPTICA Dirección General de Investigación Científica y Desarrollo Tecnológico. Programa Nacional de Promoción General del Conocimiento 2005. LUIS FERMÍN CAPITÁN VALLVEY. (University of Granada). 01/01/2006-12/2008. 169.316 €.
- 7 BQU2002-00353, DESARROLLO DE SENSORES DE UN SOLO USO EN EL CAMPO MEDIOAMBIENTAL Y AGROALIMENTARIO Dirección General de Investigación Científica y Desarrollo Tecnológico. Programa Nacional de Promocion General del Conocimiento 2002. LUIS FERMÍN CAPITÁN VALLVEY. (University of Granada). 01/11/2002-01/10/2005. 59.900 €.
- 8 201060E005, NANOPARTÍCULAS CON FUNCIONALIZACIÓN Y MICROESTRUCTURA CONTROLADAS PARA APLICACIONES DE HIPERtermia (NPHIPER) ASUNCION FERNANDEZ CAMACHO. (INSTITUTO DE CIENCIA DE MATERIALES DE SEVILLA, CSIC,). From 01/01/2010. 54.500 €.
- 9 CTQ2008-03229, Desarrollo de polímeros inteligentes y biocompatibles con aplicaciones terapéuticas Ministerio de Ciencia e Innovación. Quijada-garrido, Isabel. (INSTITUTO DE CIENCIA Y TECNOLOGÍA DE POLÍMEROS, CSIC,). From 01/01/2009.
- 10 MTKD-CT-2005-029554, Sensors Nanoparticles for ions and Biomolecules (SNIB) Marie Curie Actions. Mohr, Gerhard J. (FRIEDRICH-SCHILLER-UNIVERSITÄT JENA (ALEMANIA).). From 01/08/2006. 1.153.287,95 €.

C.3. Participation in R&D and Innovation contracts

- 1 TECNO-CAI: Tecnologías Eficientes e Inteligentes Orientadas a la Salud y al Confort en Ambientes Interiores Acciona Instalaciones, S.A.. 1. 07/07/2009-06/01/2013. 97.777,78 €.
- 2 Procedimiento para la determinación de pimaricina en emulsiones de acetato de polivinilo DOMCA, S.A. (ABONOS NATURALES). 01/11/2001-P3M. 2.000 €.

C.4. Patents