

Date of the CVA	09/01/2020
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Section A. PERSONAL DATA

Name and Surname	Elena Atrián Blasco		
DNI/NIE/Passport		Age	32
Researcher's identification number	Researcher ID	A-4163-2018	
	Scopus Author ID	56114178400	
	ORCID	0000-0002-3830-7847	

A.1. Current professional situation

Institution	Consejo Superior de Investigaciones Científicas		
Dpt. / Centre			
Address			
Phone	Email		
Professional category	Marie Sklodowska-Curie fellow - postdoctoral researcher	Start date	2019
UNESCO spec. code	230300 - Inorganic chemistry		
Keywords	Bioinorganic chemistry		

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

Bachelor/Master/PhD	University	Year
Programa Oficial de Doctorado en Química Inorgánica (PhD Inorganic Chemistry)	Universidad de Zaragoza	2015
Máster Universitario en Investigación Química (MSci Chemical Research)	Universidad de Zaragoza	2012
Licenciado en Química (BSc Chemistry)	Universidad de Zaragoza	2011

A.3. General quality indicators of scientific production

CURRENT POSITION: **Marie Sklodowska-Curie post-doctoral fellow** at Instituto de Ciencia de Materiales de Aragón (ICMA-CSIC).

RESEARCH OUTPUT: During my scientific career I have published **11 peer-reviewed scientific articles**, being the **first author in 8** of them and **corresponding author in 1** of them. 2 have been **highlighted as covers**. These works have been cited 221 times by 158 different documents according to Scopus and 248 times according to Google Scholar, with an **h-index of 10**. I obtained a **PhD in Inorganic Chemistry** in 2015 under the supervision of **Prof. M. Laguna** and **Dr. E. Cerrada**. During this period, I published **5 scientific articles** (3 of them as **first author**): 1 Eur J Med Chem, 1 Metallomics, 1 Dalton Trans, 1 Eur J Inorg Chem and 1 Inorg Chem. From March 2016 I worked as a **post-doc researcher** with **Dr. C. Hureau**. From this time, I have published **3 review articles as first author**: 1 Dalton Trans, 1 Chem Soc Rev and 1 Coord Chem Rev (**corresponding author**) and **3 scientific articles**: 1 Chem Sci, 1 Anal Chem (first author) and 1 Metallomics (first author). Currently, I have 3 drafts in preparation. I have acted as a **referee** for MedChemComm (RSC), Chemical Communications (RSC), biomimetics (MDPI) and biomolecules (MDPI); and as a **Guest Co-Editor** for a Special Issue of molecules (MDPI). During my career as pre- and post-doc researcher, I have started **international collaborations** for the teams where I have carried out my research.

CONFERENCES: I have presented my work in **17 national and international conferences**, being 5 of them oral and flash contributions, and having been awarded with **Best Poster Award** at the ICBC 18. I have **co-organized the 1st Seminar Day** of the ALZOID team with contributions from 3 national and international invited researchers and the team's members. I also co-organize the scientific seminars of my current team, Bionanosurf.

STUDENT SUPERVISION: I have **co-supervised** one **master student** and an **Erasmus student** in their research internships at the LCC, Toulouse. I have also co-supervised one **visiting international PhD** student during her stay at the LCC. I am currently supervising an **undergraduate student** in their last year research project.

DISSEMINATION: I like to actively contribute to the popularisation of science through events like the **Researchers' Night** and talks in education centres. In 2020 I will be coordinating the outreach project Bacterfield, awarded in the III edition of Cuenta la Ciencia of the Fundación General CSIC. This project will develop a board game aimed at students and general public to raise awareness of antimicrobial resistance and the research of new antimicrobial materials.

Besides the scientific contribution, I participate actively at the organization of committees and boards of R&D centres and scientific societies. I was member of the board of the Instituto de Síntesis Química y Catálisis Homogénea (ISQCH), where I did my predoctoral studies, as **representative of the non-permanent non-doctor personnel**. During my postdoctoral stay I have been **treasurer of the Réseau de Jeunes** of the Societé Chimique de France – Midi-Pyrénées.

Section B. SUMMARY OF THE CURRICULUM

Researcher in the field of **Bioinorganic Chemistry**, currently working as a **Marie Sklodowska-Curie fellow** at the Instituto de Ciencia de Materiales de Aragón (ICMA) in the MSCA-IF 2018 project PePiPOM. This project (grant number 845427) aims at producing new peptide-functionalized polyoxometalates with synergic antimicrobial activity.

I have published **11 peer-reviewed scientific articles (8 as first author and 1 as corresponding author)**. These contributions have been cited 221 times by 158 different documents and 248 times according to Scopus and Google Scholar respectively, with a **h-index of 10**. I have presented my work in **17 national and international conferences**, being 5 of them oral and flash contributions, and having been awarded with **Best Poster Award** at the ICBIC 18.

I received my **PhD in Inorganic Chemistry** at the **Universidad de Zaragoza in 2015** under the supervision of Prof. M. Laguna and Dr. E. Cerrada. I joined after the **Laboratoire de Chimie de Coordination** (LCC), France, as a post-doctoral researcher of the ERC Starting Project aLzINK 638712 awarded to Dr. C. Hureau. This project contributes to the research of one of the greatest social challenges: understanding the development of Alzheimer's disease and contributing to its treatment with new proofs-of-concept for the design of potential drugs.

I have experience in working in **multidisciplinary teams and projects**. My main area of research is bioinorganic chemistry, focused (i) on the synthesis of **biological active gold(I) complexes**, developed mainly during my pre-doctoral research, (ii) the interaction of **Zn and Cu with the amyloid- β peptide implicated in Alzheimer's disease**, which I started working on during a pre-doctoral stay at the LCC and continued after during my first years of post-doc, and (iii) on the development of **new hybrid materials with antiobiofilm and antimicrobial properties**.

In these last years I have shown **clear leadership capacity by**, among things, (i) establishing new research sub-lines in the teams, (ii) active studying and production of results in most of the topics researched by the team which demonstrates a high scientific quality, (iii) taking responsibility of the good running of the laboratory and the team: management of laboratory maintenance, coordinating the arrival of new students and personnel, organization of seminars, etc. (iv) starting new collaborations for the teams and maintaining some of the already established ones, and (v) being awarded with one of the most competitive fellowships for young researchers in the European Union, the Marie Sklodowska-Curie fellowship.

I am highly motivated to learn from different disciplines and to apply the newly acquired knowledge to my primary training in chemistry. I have always relished the opportunity to supervise junior researchers and to date **I have co-supervised** 2 undergraduate, 1 Masters and 1 visiting PhD student.

Enthusiastic, I build relationships of trust within the team members and other personnel. Besides the lab work, I like to participate in activities for the dissemination of science: Researcher's night, talks and scientific demonstrations. In 2020 I will be coordinating the outreach project **Bacterield**, awarded in the III edition of Cuenta la Ciencia of the Fundación General CSIC. This project will develop a board game aimed at students and general public to raise awareness of antimicrobial resistance and the research of new antimicrobial materials.

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

- 1 **Scientific paper**. Cheignon, C.; et al. (7/3). 2017. Identification of key structural features of the elusive Cu–A β complex that generates ROS in Alzheimer's disease *Chemical Science*. RSC. 8, pp.5107-5118.
- 2 **Scientific paper**. E. Atrián-Blasco; et al. (5/1). 2019. Role of PTA in the prevention of Cu(amyloid- β) induced ROS formation and amyloid- β oligomerisation in the presence of Zn *Metallomics*. RSC. 11-6, pp.1154-1161.
- 3 **Scientific paper**. E. Atrián-Blasco; et al. 2018. Ascorbate Oxidation by Cu(Amyloid- β) Complexes: Determination of the Intrinsic Rate as a Function of Alterations in the Peptide Sequence Revealing Key Residues for Reactive Oxygen Species Production *Analytical Chemistry*. 90-9, pp.5909-5915.
- 4 **Scientific paper**. Atrián-Blasco, E.; et al. (5/1). 2017. Novel Gold(I) Thiolate Derivatives Synergistic with 5-Fluorouracil as Potential Selective Anticancer Agents in Colon Cancer *Inorganic Chemistry*. ACS Publications. 56-14, pp.8562-8579.
- 5 **Scientific paper**. E. García-Moreno; et al. (7/3). 2016. In vitro and in vivo evaluation of organometallic gold(I) derivatives as anticancer drugs *Dalton Transactions*. RSC. 45, pp.2462-2475.
- 6 **Scientific paper**. Atrián-Blasco, E.; et al. (5/1). 2016. Synthesis of Gold(I) Derivatives Bearing Alkylated 1,3,5-Triaza-7-phosphaadamantane as Selective Anticancer Metallodrugs *European Journal of Inorganic Chemistry*. Wiley. 2016-17, pp.2791-2803.
- 7 **Scientific paper**. E. Atrián-Blasco; et al. (7/1). 2015. Copper(I) targeting in the Alzheimer's disease context: A first example using the biocompatible PTA ligand *Metallomics*. RSC. 7, pp.1229-1232.
- 8 **Scientific paper**. E. García-Moreno; et al. (6/3). 2014. Gold(I) complexes with alkylated PTA (1,3,5-triaza-7-phosphaadamantane) phosphanes as anticancer metallodrugs *European Journal of Medicinal Chemistry*. Elsevier. 79, pp.164-172.
- 9 **Review**. E. Atrián-Blasco; et al. 2018. Cu and Zn coordination to amyloid peptides: From fascinating chemistry to debated pathological relevance *Coordination Chemistry Reviews*. 375, pp.38-55.
- 10 **Review**. Atrián-Blasco, E.; et al. (6/1). 2017. Chemistry of mammalian metallothioneins and their interaction with amyloidogenic peptides and proteins *Chemical Society Reviews*. RSC. 46, pp.7683-7693.
- 11 **Review**. Atrián-Blasco, E.; Conte-Daban, A.; Hureau, C.(3/1). 2017. Mutual interference of Cu and Zn ions in Alzheimer's disease: perspectives at the molecular level *Dalton Transactions*. RSC. 46, pp.12750-12759.

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

- 1 Peptide-functionalized POMs as biofilm disruption agents: searching for synergy in bactericidal materials *European Commission - Research Executive Agency*. Scott G. Mitchell. (Instituto de Ciencia de Materiales de Aragón). 01/06/2019-31/05/2021. 172.932,48 €.
- 2 Bacterield *FUNDACION GENERAL CSIC*. Cuenta la Ciencia III edition. Elena Atrián Blasco. (Instituto de Ciencia de Materiales de Aragón). 01/01/2020-31/12/2020. 2.800 €.

- 3 Alzheimer's disease and Zinc: the missing link ? (aLzINK, Starting Grant Project ID: 638712) European Research Council. (Laboratoire de Chimie de Coordination (LCC) (CNRS)). 01/03/2015-29/02/2020. 1.499.947,5 €. Team member.
- 4 Filtros inteligentes, con indicador de saturación basado en la utilización de sustancias vaporcrómicas Mariano Laguna Castrillo. (Instituto de Ciencia de Materiales de Aragón). 01/09/2012-31/08/2014.
- 5 Compuestos de coordinación para aditivos en pinturas II María Asunción Luquin Martínez. (Instituto de Ciencia de Materiales de Aragón). 13/05/2013-30/09/2013.
- 6 Realización de ensayos Mariano Laguna Castrillo. (Instituto de Ciencia de Materiales de Aragón). 01/10/2011-30/09/2012.
- 7 Traçage de l'origine des composants métalliques des peptides neurotoxiques par les isotopes stables du zinc Centre National de la Recherche Scientifique. (Centre National de la Recherche Scientifique (UPR 8241 & UMR 5563)). From 03/09/2018. 40.000 €.

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

C.4. Patents