



## AYUDAS RAMÓN Y CAJAL CONVOCATORIA 2017

### Turno de acceso general

**Nombre:** RODRIGUEZ JIMENEZ, ALICIA  
**Referencia:** RYC-2017-22801  
**Área Científica:** Ciencia y Tecnología de los Alimentos  
**Correo Electrónico:** aliciarj@unex.es

#### Título:

Impact of abiotic- and biotic-related stress on gene expression by toxigenic moulds and pathogenic bacteria in foods

#### Resumen de la Memoria:

My research career has been mainly focused on Food Hygiene and Safety particularly in developing tools to prevent and control pathogenic microorganisms and their toxins, especially toxigenic moulds, in different foods throughout the food processing chain. I have more than nine years' experience in developing research in applied aspects of food mycology including molecular ecology and analytical quantification of mycotoxins, especially in relation to mould species belonging to the genera *Aspergillus*, *Penicillium*, *Alternaria* and *Fusarium*. My research focuses mainly on the impact that environmental and stress factors has on the functioning of these fungi, the mechanisms used for ecophysiological tolerance, and the molecular basis of secondary metabolite production, especially mycotoxins and synthesis of compatible solutes to overcome stress. I have also developed rapid molecular methodologies which are being used to screen early detection of expression of genes involved in mycotoxin biosynthesis before mycotoxins are produced. I have designed and validated new analytical techniques for sensitive detection and quantification of mycotoxins in meat matrices. Besides I have also optimised new reverse-transcription real-time PCR to examine changes in stress-related gene expression of different filamentous fungi which can be used as tools to understand the ecological reasons why some specific mould species are able to colonise certain niches where very few other moulds are able to grow and produce mycotoxins. The different mechanisms of tolerance to environmental conditions, ingredients and other microorganisms have also been examined. A systems approach which integrates mycotoxin- and stress-related gene expression, growth and toxin data under interacting environmental conditions would be useful to propose strategies to control and minimise toxigenic moulds in foods. Recently, I extended my research interests in understanding the ecological reasons why *Listeria monocytogenes* may contaminate ready-to-eat products by using new and innovative molecular techniques which allow evaluation of the effect of non-thermal technologies (high hydrostatic pressure, E-beam and biopreservation) on the expression of virulence- and stress-related genes of strains of *L. monocytogenes* resistant to these technological treatments. These studies are being carried out in meat and cheese-based products. All these studies led to a better understanding of the events involved in adaptation of undesirable microorganisms in foods, and have served to design new combined treatments and strategies to effectively control toxigenic moulds and pathogenic bacteria in foods.

#### Resumen del Currículum Vitae:

##### - University

- (1) Bachelor of Science (B.Sc.) in Chemistry, 1999-2004, University of Extremadura.
- (2) Bachelor of Food Science and Technology (B.Sc. Honours), 2004-2006, University of Extremadura.
- (3) Master of Science (M.Sc. Food Science and Technology), 2007-2008, University of Extremadura.
- (4) Doctor of Philosophy (Ph.D. Food Science and Technology), 2012, University of Extremadura.

Subject: "Development of real-time PCR methods for detection and quantification of mycotoxin producing molds in foods "(European Doctor Mention).

##### - Awards

- (1) CTAEX award by the development of a new Project "Development of a new functional dairy product antioxidant effect" (2006)
- (2) Three awards for the "best poster" in national and international conferences (one in 2012 and two in 2016)
- (3) Special award of Doctor of Philosophy for best Doctoral Thesis in the technical area of University of Extremadura, 2012 (PhD with honours).
- (4) FEMS Congress Award for Young Scientists (2013)
- (5) Award for Excellence in Research career in the Technical Area for Young Researchers at University of Extremadura (2016).

##### - Fellowships

I have been awarded by several fellowships during my research career: (a) MSc scholarship (from "La Caixa" foundation), (b) FPI pre-doctoral fellowship (Spanish Comision Interministerial de Ciencia y Tecnología), (c) fellowship to do a short stage at Aarhus University (Denmark), (d) post-doctoral fellowship "contrato puente" at University of Extremadura, (e) two post-doctoral fellowships from Alfonso Martin Escudero foundation and Government of Extremadura, (f) Juan de la Cierva-Incorporación fellowship from the Spanish Ministry of Economy and Competitiveness.

##### - Stays abroad

01/03/2010-31/05/2010. Pre-doctoral stay at Aarhus University (Denmark)



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31/01/2013-15/06/2015. Post-Doc stage at Cranfield University (UK)

- Publications

High-impact journal Publications: 54 (40 in the first quartile, 9 in the second quartile).

Book Chapters in recognised publishing house: 15.

Published sequences: 56.

- Conferences

I have presented different oral communications and invited lectures in more than 15 national and international conferences, advances schools, different European Universities, etc.

- Projects and funding

I am leading and supervising 2 competitive projects and 4 non-competitive ones. One of them is a bilateral project between the Spanish Service for the Internationalization of Education Ministry of Modernization of the Argentinian Government. I have obtained as PI more than 22000 euros of funding from the different projects.

- Supervision of students.

I have successfully supervised 2 PhD, 12 MSc students, 6 BSc students, 2 Erasmus projects and 5 research placement projects. I have 1 PhD, 1 MSc and 3 BSc students working on various aspects of applied food microbiology (toxigenic moulds and *Listeria monocytogenes*) at the present time.

- International relations

I have on-going fruitful collaboration with a number of outstanding researchers in the Food Science and Technology areas, e.g. (a) Prof. Dr. Naresh Magan and Dr. Ángel Medina (Cranfield University, UK), (b) Prof. P. Rodrigues (Polytechnic Institute of Bragança, Portugal), (c) Dr. Andrea Patriarca (University of Buenos Aires, Argentina), (d) Dr. Michael Sulyok (University of Natural Resources and Life Sciences, Austria), etc.



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**Nombre:** TRES OLIVER, ALBA  
**Referencia:** RYC-2017-23601  
**Área Científica:** Ciencia y Tecnología de los Alimentos  
**Correo Electrónico:** atres@ub.edu

#### Título:

Lipids in animal feeding and food authentication

#### Resumen de la Memoria:

At present, I am a post-doc researcher within a Juan de la Cierva contract.

My main research lines are:

- i) Lipids in animal feeding, effects on meat nutritional value and oxidative stability
- ii) Food authenticity by lipid fingerprinting and chemometrics.

i) Regarding the lipids in animal feeding, it was the main research line of my PhD and current research group. I first evaluated the nutritional quality and oxidative stability of chickens and rabbits fed feeds enriched with vegetable oils and antioxidants, in order to improve their nutritional value by increasing their meat content in n-3 polyunsaturated fatty acids, without affecting its oxidative shelf life.

Once the effects of using raw vegetable oils were known, I studied the repercussions of using oils with a certain oxidation degree as feed fat sources, first with tailor made oils, oxidized under controlled conditions, and then by recruiting, characterizing and assaying real co- and by-products of the food fat chain because they would be more economically interesting for feed producers. Results showed that some co- and by-products could be used in feeds without affecting the lipid composition and stability of meat offering possibilities for their valorization.

Upon my reintegration after the post-doc abroad, I assayed new technical fats obtained by a partial re-esterification of acid oils (a by-product from refineries) and glycerol, aiming at improving the performance with respect of acid oils by reduce the free fatty acid amount and increasing the amount of glycerols that might have an emulsifying role in the gut. However, results on animal growth and meat composition have showed that this process has null or just a slight advantage in animal growth or product composition over the use of acid oils, especially in unsaturated fat sources and when used for grower periods. Thus, the use of acid oils seems promising but their high variability discourages farmers of using them. The current research consists of completely characterizing acid oils from chemical refining and fatty acid distillates from physical refining available in the market, to detect the main variability parameters affecting feed shelf life, animal production and the composition and stability of animal food products, so that recommendations on their use and control plans can be established and their use can increase.

In parallel, I have applied the knowledge on lipid analysis and oxidation to projects aiming at improving food oxidative shelf life (snacks, iron fortified cookies, sausages)

ii) I started working on food authenticity and chemometrics during my post-doc at RIKILT. The aim is to develop models based on analytical techniques combined with fingerprinting to verify the identity of a food product so that frauds can be detected. I developed and validated models to discriminate organic vs conventional feeds, the geographical origin of palm oil, or the variety of extra virgin olive oils, among others, following various analytical techniques (PTR-MS, fatty acids, NIR) and chemometrics.

Upon my return to UB, I am establishing this research line here. Here, I have been working in the verification of Iberian ham, olive oil geographical origin, its commercial category and the detection of its adulteration under a fingerprinting approach with low and high resolution analytical techniques.

#### Resumen del Currículum Vitae:

My academic background is BsC in Pharmacy (UB, 2002) and PhD with European accreditation (UB, 2009). I have conducted a MsC on Higher Education (UB, 2017). I conducted my PhD thanks to competitive grants (UB, FPU, Instituto Danone). During the PhD I conducted a 4 month research stay to the Food Chemistry Dept-SLU, Sweden. After the PhD, I moved to RIKILT-Wageningen UR (3 years), The Netherlands, funded by a M. Escudero fellowship (10m), a Marie Curie IEF (2y), and 3 STSM from a EU-COST Action (4m). In late 2012, I was reintegrated at UB through a Beatriu de Pinós-COFUND grant (Generalitat de Catalunya, 24m), and a Juan de la Cierva contract (36m).

Scientific contributions: I am coauthor of 45 articles (32 in 1st quartile; 16 in 1st decile, h=13), 6 book chapters (Elsevier Publisher, Nova), 27 oral presentations (6 invited), and 51 posters in congresses.



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International activities: Pre-doctoral mobility (4 months, Uppsala, Sweden) and post-doctoral mobility to RIKILT-WUR (The Netherlands) for 3 years, including funding from the prestigious individual EU-Marie Curie IEF fellowship.

I have participated in 5 international projects (being co-IP for UB in one of them) and in one COST Action network. Organization of 1 international workshop (with EU funding).

Other merits: I have been organizer of 5 workshops (1 international and 4 national), and I have been involved in 7 outreach/dissemination activities, including conferences (3), school-days (2), video interviews (1) among others.

I have been a project evaluator expert for AEI (ANEP)-Spain and the National Plan of Romania. I usually review manuscripts for various SCI journals (Food Chem, J Chemometrics, Food Control). I have been a member of 2 PhD evaluation committees (at UAB and University of Granada) and 1 BsC thesis committee (8 students, UB). Moreover, I have been a jury member of two research awards (best publication, best presentation).

My teaching experience includes about 80h per academic year of BsC teaching and a post-graduate course. I have been associate professor at UB (2.5 years). I hold a MsC degree on Higher Education. I have presented various posters on innovative teaching, and attended various courses (on teaching and research).

#### Leadership:

My leadership is reflected in my participation in projects (5 international, 7 National, 4 Regional), especially in the 4 competitive projects of which I am project leader (3 of them in the food authenticity area: one EU project H2020 co-IP at UB, one funded with FEDER funds, and one regional-UB). I have also been the project leader of 6 contracts with companies, and participated in other 6.

I have been elected as Member of the Management council of INSA-UB research institute (4 y) and I have been its secretary (10 m).

I have been the supervisor of 1 PhD (2 on-going), 4 MsC, 7 BsC theses and various research works of national and international BsCs. I have hosted research visits of 2 PhDs and 1 post-doc. I have also been in charge of the hands-on-training of 4 laboratory technicians and various BsC students.

I have been awarded with prestigious grants such as FPU, Marie Curie-IEF, A. M. Escudero and Juan de la Cierva, among others, without unemployment gaps in it. I have been reserve in the Ramon y Cajal 2016 call.

Accreditation: AQU-Catalunya (Research, 2016; Lecturer, 2009); ANECA-Spain (Contratado doctor, 2009).



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**Nombre:** PORTOLES NICOLAU, TANIA  
**Referencia:** RYC-2017-22525  
**Área Científica:** Ciencia y Tecnología de los Alimentos  
**Correo Electrónico:** tportole@uji.es

#### Título:

INNOVATIVE APPLICATIONS OF MASS SPECTROMETRY BASED TECHNIQUES IN THE FOOD SAFETY, QUALITY AND TRACEABILITY FIELDS

#### Resumen de la Memoria:

Tania Portolés obtained her B.Sc. degree in Chemistry at University Jaume I of Castellón in 2003. She joined the group led by Prof. Félix Hernández in the Research Institute for Pesticides and Water (IUPA) to perform the PhD (funded by FPU grant). She made a pre-doctoral stay in Institute of Chemical Technology (Prague, 3 months) under supervision of Prof. Ing. Jana Hajšlová to work on the use of GC and GCxGC coupled to MS with the latest TOF analyzers. Her active participation in the latest developments on GC-MS, led to 2 short stays in Waters Corporation (Manchester) which allowed her to perform the first experiments in the new APCI source designed for GC (APGC). She got the European Ph.D. in 2010 receiving the Cum Laude qualification (Doctoral Extraordinary Award, 2012), and then she started a post-doctoral stage at IUPA until she moved to RIKILT-Institute of Food Chemistry (The Netherlands) in October 2011 (BEST Programm and VALi+d for postdoctoral researchers) under supervision of Dr. Hans Mol. Then, she returned to IUPA and got a Juan de la Cierva-Incorporation contract.

Her main research line (embedded within several projects mainly funded by Ministry of Education and Science) was initiated in the exploitation of the potential of coupling GC to MS with QqQ and (Q)TOF analyzers as advanced tools for multiresidue quantitative methods and wide-scope screening methods of organic contaminants at ultra-trace levels in the environmental, biological and food safety fields. Special emphasis is given in the last years to the use of new APGC. This work has been pioneer at the international level, and has been widely recognized by the several conferences and workshops where the candidate has been invited. Additionally, and especially in the second part of candidate's research career, the use of metabolomics-based approaches have allowed the candidate to open new research lines based on the application of latest advances in analytical chemistry to high impact fields within food science (food quality/authenticity, food traceability and nutrition). Currently, she leads the APGC research line and its applications in new research food science fields like olive oil classification by quality, food metabolic profiles changes produced by food-processing, application of nutritional metabolomics to discover new biomarkers of dietary intake, food packaging and food safety in aquaculture products, among others. Within these research lines, the candidate is supervising two thesis and participating in some contributions as corresponding author. Two projects (one ERA-NET action) and a contract as a principal researcher are also goals recently obtained by the candidate which has enabled a recent collaboration Institute of Toxicology from University of Antwerp.

She has been a member of the international network ISIC 2012/016 Collaborative Research on Environment and Food Safety (ENVI-FOOD), funded by Generalitat Valenciana and led by IUPA that allowed international collaboration with the MTM Research Centre, Örebro University (Sweden), the Laboratory of Dioxins, from IDÆA-CSIC, Barcelona, and the National Institute of Nutrition and Seafood Research, Bergen (Norway). New approaches for dioxin analysis making use of GC-MS/MS with APCI and international projects on aquaculture field are some of the outputs from this collaboration.

#### Resumen del Currículum Vitae:

The trajectory of the candidate includes 51 peer-reviewed articles (4 reviews, 3 written by invitation), 2 book chapters (written by invitation) and 1 book, with more than 1450 citations (h-index 24). Her scientific articles have been published in high impact journals (14 as first author, 6 as a corresponding author): Trends in Anal. Chem (1), Anal. Chem (5), Anal. Chim. Acta (6), J. Chromatogr. A (8), Talanta (2), Food Chem. (2), J. Hazard. Mat. (1), among others and led to more than 80 communications in Workshops and Congresses (25 oral communications, 3 of them invited). She is also supervising two thesis and has performed reviewer tasks for several leading journals, including Journal of Chromatography A, Trends in Analytical Chemistry, Analytical Chemistry and Analytica Chimica Acta. Also, several awards and honourable mentions obtained is a prove of the quality her research. It is noticeable the award received as a Young Researcher in the Basic Science field given by University Jaume I and Banco Santander.

Pre-doctoral research of the candidate was mainly embedded in the projects from Ministry of Education and Science (CTQ2006-07594 and CTQ2009-12347), where the potential of the TOF MS was investigated for development of advanced analytical methodology for screening and confirmation of organic contaminants in water and food samples. She also has participated in other competitive projects, AGL2013-40986-R funded by the Ministry of Economy and Competitively, P1-1B2009-25 and P1-1B2013-70 funded by Universitat Jaume I and PROMETEO/2009/054 and PROMETEO/2014/023 a funding of Generalitat Valenciana for groups of excellence.

The work performed during her post-doctoral period, was embedded in RIKILT's project Method development and surveys on environmental contaminants and pesticides in the frame of the Dutch Statutory Research Tasks (WOT-02-001-017). The candidate's work was also of relevance in the frame of RIKILT's role in the EURL/NRL networks, in particular establishment and verification of identification criteria for emerging techniques such as GC-APCI-MS/MS and GC-APCI-QTOF MS. Additionally, the candidate contributed to project



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“Expertise development in frame of NRL tasks” (WOT-02-001-058), and “Harmonisation of analysis methods” (WOT-02-001-058). International collaboration is worth to mention within ISIC 2012/016 project “Collaborative Research on Environment and Food Safety (ENVI-FOOD)”, a four-years collaborative international project funded by Generalitat Valenciana and led by IUPA, which involves several research Centers with wide experience in the public health field. Two international projects in collaboration with the National Institute of Nutrition and Seafood Research, Bergen (Norway) are some of the outputs from this collaboration. Recently, the candidate has obtained one project “UJI-A2016-01” and one contract with the company “Sea Delight” both as a principal researcher which proves her leadership capability. Finally, the candidate has recently obtained a ERA-NET action (Arimnet2 Call) as a principal researcher within a consortium of young researchers.



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**Nombre:** PRIETO LAGE, MIGUEL ANGEL  
**Referencia:** RYC-2017-22891  
**Área Científica:** Ciencia y Tecnología de los Alimentos  
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#### Título:

Valorisation of agro-fishery by-products as sources of high-value bioactive molecules: a circular economy strategy from waste-to-bioproducts

#### Resumen de la Memoria:

The applicant is performing a Post-doctoral national stage at the Nutrition and Bromatology Group (University of Vigo, Spain) under the direction of Prof. Dr Jesús Simal Gándara. Thus, since the doctorate, the applicant has been involved in 4 Post-doctoral stages with multidisciplinary activities supported by prestigious and competitive programs in top-high research institutions.

The applicant has addressed several research topics across different fields, but always keeping Food Science as his major research area. In a short-term, the applicant's carrier objectives are to be principal investigator of a research project, being able to develop an independent research and continue to contribute in the supervision of PhD and Master Students. In a long-term, the applicant's carrier objectives are to lead his own research team, as also to internationalize at a higher level the research by applying to European projects and be able to achieve the following steps in my research career. Patents registration will also be a crucial objective

The applicant has strongly contributed to the optimization, implementation and development of various analytical techniques for different molecules, bioactivity evaluation of the mentioned natural matrices, including antioxidant, antimicrobial, and antitumor activities. The research line of the applicant can be summarized in two main research lines. One of the major strengths of the lines and sublines addressed by the applicant is the flexibility to share methodologies and processes between the different topics, creating a continuous working motion between them:

(1) Food Chemistry and Food Technology, in which he has acquired a broad knowledge on the: 1.a) characterization of bioactive compounds in food and biological samples by advanced analytical techniques; 1.b) development of new natural food products enriched with bioactive compounds obtained from natural sources by emergent technologies and green sustainable process.

(2) Bioinformatics and Chemical Engineering, focused in the biological response of bioactive compounds and possible synergist/antagonistic effects, the applicant has advanced in the development of: 2.a) assays, procedures, protocols or revision of old systematic ones to improve the production, reproducibility and assessment criteria of the chemical and biochemical; 2.b) development of empiric and mechanistic models to produce global solutions for an efficient description of biological processes (dose-response to bioeffectors),

The applicant's education and experience has provided him with valuable organizational and time management skills, and have enhanced his interpersonal and communication abilities. These strengths will allow him to be a very efficient member and an asset to any team. The outcomes of this proposal might be spread to other applications, especially in recovering bioactive phytochemicals from natural matrices and industrial by-products from the agro-fishery sector. This proposal also fits within the strategy of the horizon 2020 (Sustainable and competitive agri-food sector for a safe and healthy diet). The achievement of the Ramón&Cajal program research position will provide the applicant with a long-run-chance to not only expand his knowledge, but also to allow him to work in the field that he is very much interested.

#### Resumen del Currículum Vitae:

The applicant holds multidisciplinary graduate record: 1 National certificate in Laboratory Analysis in Medical discipline (2000-02); 1 National Degree in Agricultural Sci. Engineering (2002-05, awarded with the best academic results in 2005 in the Galicia region); and 2 Bach. Honours Degree (one in Food Sci. and Tech. and another in Environmental Sci. and Tech.) from 2005 to 2007 at University of Vigo (Spain) and Institute of Technology of Sligo (Ireland). He has achieved two Post-Graduate Master courses (by research) in Food Sci. and Tech. and Biosystems Engineering (2007-10) at the University of Vigo (Spain) and University College Dublin (Ireland).

From 2010-14 the applicant completed his PhD degree in Food Science Technology with International distinction at the Institute of Marine Research (IIM-CSIC, Vigo, Spain), receiving an award for the best thesis of University of Vigo (2015) in its area. Thus, since the doctorate, the applicant has been involved in 4 Post-doctoral stages with multidisciplinary activities supported by prestigious and competitive programs in top-high research institutions: University College Dublin (UCD, Ireland); University of Campinas, (Brazil); Polytechnic Institute of Bragança (IPB, Portugal); and University of Vigo (Ourense, Spain).

In revision of his research accomplishments, the applicant emphasizes his experience in Food Chemistry and Technology having published more than 51 peer-reviewed articles (SCI journals), with more than 530 citations and h-index of 14 from 2008 to 16th January of 2018. It is worth to describe that in 26 articles he is the first author (51%), 10 as second author (29%) and 5 as last author (10%), being corresponding author in 30 articles (58%). In addition, 41 (80%) of those have been published in journals that are located within the first quartile (Q1) and



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8 articles (16%) within the first decile (D1). He has published in several peer-reviewed articles in high Impact Factor (IF) journals, such as: Food Chemistry (IF>4, publishing 4 documents), Bioresource Technology (IF>5, 1); J. of Agricultural and Food Chemistry (IF>3, 2) and J. Of Cleaner Production (IF>5, 1).

As demonstrative example of the internationalization of the applicant's research career, the 51 articles have been accomplished in collaboration with a total of 21 world-wide recognized institutions: Spain (51 articles in 4 institutions); Portugal (24 in 7 institutions); Ireland (8 in 3 institutions); Brazil (3 in 2 institutions); France (1 in 1 institution); UK (1 in 1 institution); and USA (1 in 1 institution).

Additionally, the applicant has worked in 15 different types of research project funds as team member (international, European, national, regional and company contracts). Moreover, he holds 3 patents and another one has been recently submitted. The applicant has co-supervised one Master's students and he is collaborating in 4 Master and 4 PhD students. The applicant has participated in 42 national and international conferences in different fields of study from Food Technology to Mathematical Sciences. He has acquired teaching experience at the University of Vigo lecturing Experimental Science subject. Currently, he is member of the editorial board of Frontiers in Bioscience (Landmark Edition) as managing editor of a special issue and guest editor in Scientific World Journal.



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**Nombre:** GRANDE BURGOS, MARIA JOSE  
**Referencia:** RYC-2017-23077  
**Área Científica:** Ciencia y Tecnología de los Alimentos  
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#### Título:

Bioconservación de Alimentos

#### Resumen de la Memoria:

Becaria de Colaboración en el Área de Microbiología, U de Jaén (2001). Línea de investigación: Estudio de sustancias antagonistas producidas por microorganismos. Becaria FPI (4 AÑOS). Defendí mi Tesis Doctoral (Actividad de la enterocina AS-48 frente a bacterias Gram-positivas alterantes o productoras de enterotoxinas en alimentos vegetales) en 2007, obteniendo el título de Doctor en la modalidad de Doctorado Europeo con calificación de Sobresaliente Cum laude. Esta etapa dio lugar a 17 publicaciones en revistas científicas en áreas de Ciencia y Tecnología de los Alimentos o de Microbiología. He realizado hasta un total de 7 estancias de movilidad internacional a centros extranjeros de prestigio: Institut de Recherche pour le development (IRD), Francia; Schepens Eye Research Institute, Harvard Medical School, Boston; Rijksuniversiteit Groningen, The Netherlands; Kean University, New Jersey, USA; Universidad del Centro de la Provincia de Buenos Aires, Argentina, trabajando en Departamentos de Microbiología, Genética Molecular y Tecnología de Alimentos. Mi etapa postdoctoral me ha permitido completar hasta la actualidad, un total de 82 publicaciones científicas (artículos, libros y capítulos de libro). Coautora de 67 contribuciones a Congresos Nacionales e Internacionales y dos ponencias. Disfruté durante 3 años de un contrato Juan de la Cierva de reincorporación de doctores en la Universidad de Jaén y posteriormente de un Contrato posdoctoral de la convocatoria CEIA3 de movilidad internacional de doctores. He tenido diferentes contratos de investigación asociados a proyectos que me han permitido seguir investigando dentro de la línea general de seguridad de los alimentos: Mejora de la vida útil de los productos alimenticios utilizando antioxidantes y antimicrobianos de origen natural, Estudio comparativo de cepas de Salmonella enterica procedentes de origen clínico y de alimentos, y Estudio de sensibilidad y resistencia a sustancias antimicrobianas y formación de biopelículas. Mi LÍNEA DE INVESTIGACIÓN PRINCIPAL se centra en el uso de bacteriocinas en la bioconservación de alimentos: Uso de la bacteriocina AS-48 sola o en combinación con diferentes agentes antimicrobianos, incluyendo altas presiones, frente a bacterias alterantes, patógenas, o productoras de toxinas en alimentos, Inmovilización de bacteriocinas para la bioprotección de alimentos, Estudio Genómico-Molecular y tipificación de bacterias alterantes o patógenas, Efecto de AS-48 sobre la expresión génica bacteriana, Análisis informático de datos de hibridación con microarrays, Confirmación por PCR a tiempo real de la sobreexpresión génica tras el tratamiento con bacteriocina, Sinergia de la enterocina AS-48 con biocidas en bacterias de riesgo en la industria alimentaria, Co-resistencias entre biocidas, antibióticos y metales pesados, y sensibilidad a bacteriocinas en cepas multirresistentes, Análisis de determinantes genéticos de resistencia, Estudios de biodiversidad microbiana en alimentos: Impacto de tratamientos con bacteriocina en la biodiversidad microbiana de alimentos, y en su resistoma, Análisis comparativo de resultados de secuenciación masiva (pirosecuenciación, e IlluminaMiseq). Actualmente soy la IP del Proyecto de Investigación Estudio de la producción de sustancias antimicrobianas de amplio espectro y análisis genómico de una cepa de paenibacillus"

#### Resumen del Currículum Vitae:

Doctorate Courses "Advances in Health Sciences, 2001. Doctoral Thesis: "Activity of enterocin AS- 48 against Gram-positive spoilage or enterotoxin-producing bacteria in plant foods", obtaining a Ph.D. in European Doctorate mode with rating of Excellent Cum Laude, 2007. FPI fellowship Junta de Andalucía. Researcher in 20 research projects, one as Principal Investigator: 6 national calls (MCYT, INIA, MSC, MEC, MCINN, Ministry of Economy and Competitiveness) 10 autonomic (2 of the University of Jaén, 1 University of Jaén in International Cooperation Projects, 1 of the Andalusian Institute of Biotechnology and 6 of the Government of Andalusia, including 4 projects of Excellence), 1 funded by the European Union and 3 Teaching Innovation projects. I have participated in 9 Aid Research Groups of the Andalusian Research Plan, 2 Concerted Actions Andalusian Research Plan, 1 additional measure for organizing the International Congress Food Safety Under extreme conditions (INIA) and 3 complementary actions of MEC (organization RedBAL). I have participated in 11 research contracts with 8 companies, one as principal investigator. Co-author of 59 scientific papers (54 indexed in ISI, 35 in the first quartile of the areas of Science and Food Technology or Microbiology, in 22 of them I appear as first author and one as Corresponding-author. Coauthor of 6 books and 17 book chapters (in prestigious publishers: Springer, John Wiley & Sons, CABI Int, or Nova Sci Publ). (> 1,600 citations, h-index: 23). 67 Coauthor contributions to national and international congresses. Two Conferences. Member of the network of lactic bacteria Red BAL, the Andalusian Institute of Biotechnology, the Spanish Society for Microbiology and the Campus of International Excellence Project Agrifood CeIA3. Supervision of 8 Doctoral Theses, doctoral program with Excellence Mention (MEE2011-0311). Supervision of 23 master thesis. 7 research traineeships along predoctoral and postdoctoral time, in International Centers: Institut de Recherche pour le development (IRD), France, Schepens Eye Research Institute, Harvard Medical School, Boston, Rijksuniversiteit Groningen, The Netherlands; Kean University, New Jersey, USA; University of Buenos Aires, Argentina. Accredited as Associate Professor for the ANECA in 2013. I currently have a Postdoctoral Contract for 3 years with charge to Action 6 of the Research Support Plan of the University of Jaén where I am the Principal Investigator of the Research Project: "Study of the Production of broad spectrum antimicrobial



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## AYUDAS RAMÓN Y CAJAL CONVOCATORIA 2017

### Turno de acceso general

substances and Genomic analysis of a strain of Paenibacillus". Finally, I am reviewer for two high impact JCR journals in the areas of Food Science and Technology and Biochemical Research, "The Natural Products Journal" and "Chemotherapeutic". Actively collaborate teaching official Master and Doctoral programs, I have also experience in docent activities including different postgraduate specialization courses and University teaching activities in the degrees of Biology, Environmental Science. I have collaborated in several science dissemination activities such as "Semana de la Ciencia y la Tecnología" and CeIA3 courses at University of Jaén.