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CONVOCATORIA 2016

Turno de acceso general

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Área Científica: Ciencia y Tecnología de los Alimentos
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Título:

Quality and safety assessment of food and food by-products through proteomic approaches.

Resumen de la Memoria:

I started my scientific career in 2004 with a Collaboration Fellowship at the Universidad Politécnica de Valencia (UPV) in the area of plant biotechnology, and later continue with an I3P contract from CSIC in the Institute of Agrochemistry and Food Technology (IATA) integrated in the programme for controlling residues in living animals and substances for animal feeding. In 2006, I was granted with a FPU fellowship for PhD focused on the determination of biochemical compounds for quality control in the processing of meat-derived products. During this period, I worked in collaboration with the Royal Holloway University of London (RHUL) and established the basis of knowledge necessary to develop a proteomic approach for the identification of naturally generated peptides.

During the postdoctoral period (2011-2013), I acquired state of the art scientific expertise from a multidisciplinary point of view including proteomics, metabolomics, bioinformatics, chemistry and biochemistry. In this respect, I studied alternatives for the existing chromatographic methodologies to improve the separation of small polar compounds in aqueous meat extracts in UPV, and later in Teagasc Food Research Centre (Ireland), I carried out the isolation and identification of bioactive peptides in marine by-products, studying the mechanisms of action for the antihypertensive and anti-inflammatory activity. During my postdoctoral period at RHUL (England), I used the latest advances in mass spectrometry and data analysis to develop robust methodologies suitable for use in the safety assessment of novel foods. These periods enabled diversification into a more generic based discipline with an applied and strategic use of modern technologies and the potential to be later transferred.

In 2013, I rejoined the IATA-CSIC with a postdoctoral contract JAE-DOC, and afterwards I achieved a Juan de la Cierva-Incorporación contract. During this period, I started working on the identification of naturally generated bioactive peptides in dry-cured ham, but also established a novel line about the quality assessment of high added-value of traditional meat products and by-products. This line gave me the opportunity of leading innovative strategies with the aim to increase the value of traditional products by establishing quality and safety indicators as well as to use dry-cured ham by-products as a source of bioactive compounds. Thus, I implemented the assay of novel activities as antioxidant, antihypertensive, anti-inflammatory, or antimicrobial, as well as supervised a PhD thesis to study the generation of peptides as quality markers of processing. Later, the significant relevance of oxidized peptides on the quality and safety of dry-cured ham is the focus of a second PhD supervision.

In summary, the main topics of my current research line are (i) the identification of naturally generated bioactive peptides from meat-derived and meat by-products, (ii) the use of peptides as biomarkers in the quality and safety control of traditional meat products, and (iii) the characterisation of oxidised peptide sequences and their impact on human health. Considering the wide set of skills and experience acquired during my research career, my current interest is to develop innovative perspectives in these fields contributing to the progress of science.

Resumen del Currículum Vitae:

Doctorate in Food Science and Technology from Universidad Politécnica de Valencia (2010) and currently researcher at the Institute of Agrochemistry and Food Technology (IATA-CSIC) with the support of a Juan de la Cierva-Incorporación contract.

During my PhD studies I did two stays abroad (4 months each) in the Royal Holloway University of London (Egham, UK) that established the basis of future collaborations. In 2011 I received a special award for my doctoral thesis. As a posdoctoral researcher, I enjoyed a research contract at the Universidad Politécnica of Valencia, and later a postdoctoral fellow in Teagasc Ashtown Food Research Centre (Dublin, Ireland) funded by the Spanish Alfonso Martín Escudero Foundation. Following this grant, I gained a postdoctoral Marie Curie Intra-European Fellowship FP7-PEOPLE-IEF (FOODSAFE project) in Royal Holloway University of London (Egham, UK). This postdoctoral period was a great opportunity of building long lasting international collaborations for the creation of networks, reinforcing independence and scientific maturity. I re-joined the IATA-CSIC with a postdoctoral contract JAE-DOC in 2013 and afterwards I achieved a Juan de la Cierva-Incorporación contract.

I have participated in a total of 14 projects from different funds: 3 international, 3 European, 4 national, 2 regional and 2 company contracts. I have been the main researcher in 2 competitive projects, 1 regional and 1 European, including the Marie Curie Career Integration Grant HIGHVALFOOD project FP7-PEOPLE-2013-CIG about the assessment of high added-value traditional meat products, and the regional project founded by the Generalitat Valenciana to consolidate emerging groups, in order to study the potential of meat by-products as a source of bioactive peptides and their bioaccessibility. Thus, since the doctorate, I have been involved in multidisplinary activities supported by prestigious and competitive programs that provided me the opportunity to acquire outstanding scientific background as well as to improve my expertise in project management, independent thinking and leadership skills as main researcher.

Regarding my scientific production, I have published a total of 58 articles in SCI-indexed scientific journals, 48 of them included in the first quartile and as first or second author (H-index=15), 9 book chapters published by international editorials, and 45 contributions in

congresses and workshops including 6 as invited speaker and 2 oral communications. I have supervised one PhD, three master thesis and one final degree project, and currently I am supervising two PhD and two master's students. During the last years I build international collaborations for the creation of networks that resulted in the supervision of a total of 11 stays of foreign pre- and postdoctorate visitors from Tunisia (5), Iran (2), Turkey (1), Australia (1), Norway (1), and Argentina (1), and the participation in the two COST actions FA1402 and FA1006. I have participated as a member of the organising committee of one international congress and one workshop as well as in the organisation and coordination of different dissemination activities in the IATA.
Finally, I am reviewer for seven high impact JCR journals in the areas of Food Science and Technology and Biochemical Research Methods.

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Título:

ADVANCED PROTEOMICS AND MOLECULAR SYSTEMS BIOLOGY OF SEAFOOD INTEGRITY: (i) QUALITY, (ii) SAFETY AND (iii) BIOACTIVITY

Resumen de la Memoria:

Dr. Mónica Carrera is a Senior Juan de la Cierva Researcher and Junior Group Leader at the Marine Research Institute (IIM), Spanish National Research Council (CSIC) in Vigo. Earned her Bachelor Degree in Biology at the University of Vigo (2000). Started her research career in the Immunology group (Prof. Dr. África González-Fernández) at University of Vigo, with the support of a Collaboration Fellowship and finished her DEA in 2002 generating monoclonal antibodies for Seafood Safety.

In 2002, was awarded with a Xunta de Galicia Predoctoral fellowship to carry out her PhD studies at the Marine Research Institute (IIM-CSIC) under the supervision of Prof. Dr. José M. Gallardo, Dr. Carmen Piñeiro and Dr. Benito Cañas. During her doctoral thesis, Dr. Carrera specialized in Bottom-Up, Top-Down and Targeted-Proteomics for Seafood Authenticity and Quality. New protein sequences, including new food allergens were de novo sequenced and registered in universal databases by the applicant. During her doctoral studies performed a 5-month stay at CBMSO in Madrid with the Prof. Dr. Jesús Vázquez to learn Second Generation Proteomics tools. In 2008 received her PhD in Biology with Honors (Award to The Best PhD Thesis, Diputación de Pontevedra).

As a Post-doctoral Researcher, Dr. Carrera performed a 1-month stay at the Analytical Chemistry group from the Complutense University of Madrid headed by Dr. Benito Cañas to do a training in Electron Transfer Dissociation (ETD) mass spectrometry and analysis of seafood nutritional proteins.

During 2008-2013 was working in the Proteomics and Systems Biology group headed by the recognized scientist Prof. Dr. Ruedi Aebersold at the Institute of Molecular Systems Biology (IMSB; ETH Zürich, Switzerland). For that, she got a MICINN Postdoctoral Fellowship and later a Fundación Barrié de la Maza Fellowship. In this period, she specialized in the field of Proteomics-based Systems Biology, Networks Analysis and Food Allergy. During this period she also performed In-silico and Functional Nutritional Networks of complex Food Proteomes. She achieved be an international expert in Post-translational Modifications by mass spectrometry (phosphoproteomics) and in Molecular Systems Biology.

In 2013, she was awarded by a Marie Curie IEF Postdoctoral Fellowship and returned to IIM-CSIC and started her independent carrier and project (Fish Allegomics). In this period, she also dedicated significant efforts in transferring to IIM-CSIC the knowledge acquired in Switzerland. In December 2014 she got a Juan de la Cierva contract with Prof. Dr. Isabel Medina and started collaborating with Dr. Pilar Calo-Mata (USC) and Dr. Santiago Pascual at IIM-CSIC within of National and European projects to implement Targeted-Proteomics for Seafood Safety.

In 2015, as a Food Proteomics Senior Researcher Dr. Carrera was invited by the company Thermo Fisher Scientific (San Jose, CA, USA) to work for 4-months in its Food Proteomics facilities in collaboration with the scientist Dr. Daniel Lopez-Ferrer in the field of Top-Down Proteomics for Food Authenticity and Safety. After that Dr. Carrera continues supervising several Post-doc and Master students at IIM-CSIC.

Therefore, Dr. Carrera is an international recognized expert in Advanced Proteomics and Molecular Systems Biology in the context of Seafood Integrity: (i) Quality, (ii) Safety, (iii) Bioactivity.

Resumen del Currículum Vitae:

Dr. Mónica Carrera earned her Bachelor Degree in Biology (University of Vigo, 2000). DEA in 2002. Did her PhD studies at IIM-CSIC with a Predoctoral Fellowship. She also spent 5 months at CBMSO. She received her PhD with the highest score (Sobresaliente Cum Laude) in 2008. Her doctoral thesis was awarded as The Best PhD Thesis. During 2008-2013, as a Post-doctoral Researcher, she was working in the Proteomics group at the Institute of Molecular Systems Biology (ETH Zürich, Switzerland) with a MICINN and Fundación Barrié de la Maza Fellowships. In 2013, she was awarded by a Marie Curie IEF Postdoctoral Fellowship and returned to IIM-CSIC to start her independent carrier. In December 2014 she got a Juan de la Cierva contract and in 2015 was invited by the company Thermo Fisher Scientific (San Jose, USA) to work for 4 months in its Food Proteomics facilities. Dr. Carrera spent a total of 82-months of postdoctoral experience in top-high research institutions and achieved a great interdisciplinary background in Proteomics and Molecular Systems Biology.

Her trajectory was recognized by four scientific Awards (best PhD Thesis; best Scientific Publication 2010;
best Chairman; best Scientific Publication 2016) and granted by several pre-doctoral (Xunta de Galicia) and post-doctoral grants (MICINN, Barrié Foundation, MINECO), including the prestigious Marie Curie UE FP7-IEF Postdoctoral Fellowship. Dr. Carrera participated in a total of 21 Research Projects (7 European, 9 National, 5 Regional), among them Dr. Carrera achieved funding as Principal Investigator (PI) for 4 prestigious Research Projects: H2020 European; Marie Curie UE FP7; Ramón Areces Foundation; Xunta de Galicia.

The research activities resulted in 45 peer-reviewed accepted publications (3 more in preparation), among them
Dr. Carrera is the first and/or corresponding author in 81%. Among them, Dr. Carrera published several Publications in High-Impact Factor (IF) SCI journals belonging to the First Decile (D1) as Anal. Chem. (IF: 5.856), Trends in Anal. Chem. (IF: 6.612), J. Proteome Res. (IF: 5.675),

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Proteomics (IF: 5.735), J. Proteomics (IF: 5.088). Dr. Carrera is also the first and corresponding author of 4 Technical Publication Notes published by the prestigious company Thermo Fisher Scientific. She is also the first author of 1 Encyclopedia chapter (Elsevier) and first author and corresponding author of 6 Book Chapters (Elsevier, Jonh Wiley, CRC Press). Dr. Carrera is member of the Editorial Board of Journal of Integrated OMICS and Reviewer of several high-impact SCI Journals. Dr. Carrera shares 83 international conference contributions, including 26 invited or plenary talks. Dr. Carrera is accredited by the European Commission as Project Expert Evaluator, is Expert member of the AECOSAN and project Evaluator Expert of the ANEP. Dr. Carrera co-supervises several Post-Doctoral and Master Students, had judged several PhD thesis and was President and Vocal member of several researcher contract committees. Dr. Carrera holds a Patent, a new Prototype and registered in the UniProt database 55 new proteins. Dr. Carrera actively collaborate teaching official Master and Doctoral programs, is member of the organizing committee of an international congress, participated in several divulgation events and is advisor of different international Food and Proteomics societies.

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Título:

Microbiota, health and probiotics

Resumen de la Memoria:

Nowadays, the essential role that human microbiota plays in maintaining the health status of the host is getting clear. An imbalance of the composition of the microbiota, named dysbiosis could be the cause of serious disorders. Once the microbial balance is perturbed, one of the simplest ways of recovery is the ingestion of beneficial microorganisms: the ingestion of probiotics. Probiotics are a type of Functional Food with increasing social demand during the last years due to the importance that this kind of products has in the maintenance and elongation of the health status.

In 2005, I got the PhD degree with the thesis Human intestinal microbiota: analysis and evolution of relevant microbial populations and identification of probiotic bacteria. Since then, I have been working in different research institutions analyzing human microbiota (fecal, colonic, gastric, lactational) and studying dysbiotic conditions and its relation with the host health status, developing at the same time specific probiotic applications.

During my postdoctoral stay with the group of Dr. Rodriguez at UCM I collaborated in the microbial characterization of human milk with the aim of studying possible microbial variations that take place during the state of health, illness, treatment with antibiotics and/or probiotics consumption. After my return to IPLA-CSIC I was working in the description of the microbiota inhabiting the human healthy stomach, in order to search for specific strains to be used as probiotics in this particular niche. Later, I was engaged in the study of the metabolism of isoflavones by intestinal microbiota with the intention of identifying beneficial microorganisms able to metabolize dietary isoflavones that could be useful for the treatment of menopause symptoms. In the last years, I have started new projects dealing with the study of intestinal dysbiosis in oncology patients after cytotoxic treatment in the development of personalized probiotics based on the standardization of fecal microbiota banking. This resulted in a technology transfer and creation of a spin-off of CSIC (Microviable Therapeutics S.L.). Recently, I have opened a new research line being in charge of a project funded by Danone Institute dealing with the study of changes in microbiota and intestinal inflammation associated in children with cow's milk protein allergy.

Along my scientific career I have handled with innovative culture-independent techniques in a regular way to address the study of the microbial communities. I have also implemented the use of high-throughput sequencing techniques for metagenomic approaches. I have demonstrated experience in anaerobic culture and isolation of fastidious microorganisms from feces and diverse mucosa, as well as DNA extraction from human complexes samples. My experience is very relevant too in lactic acid bacteria and bifidobacteria, with demonstrated knowledge in molecular identification, genomics and functional characterization of these microorganisms.

During all this time, and due to the multidisciplinary character of my research line, I have collaborated with several researching groups as well as medical associations, hospitals and companies. Different probiotics for particular applications have been patented and transferred to the industry; some of them are commercially available at the market.

Resumen del Currículum Vitae:

Main Contributions: I started my scientific career at IPLA-CSIC in 1999. I got the PhD Degree in 2005 obtaining the Extraordinary Doctorate award. I have 61 articles published in SCI journals (H-Index 20, Web of Science). I am author of 13 chapters in international and national books. I am co-author of five patents; four are international, four are currently licensed by companies, and one has a product commercially available (Lactanza Hereditum).

I have founded a spin-off of CSIC in 2016.

I have more than 75 presentations at national and international congresses, including selected oral communications and outstanding posters.

I have participated in 21 competitive projects and nine researching contracts with diverse biotechnology and food companies.

International Activity: During the predoctoral period I made two stays abroad in international centers: University College Cork and Agricultural University of Norway. Later, I carried out a postdoctoral stay at Università degli Studi di Verona (2007-2008), where I returned for a short visit in 2011, thanks to a bilateral international research project. At present I am engaged in CYTED proyect with Iberoamerica and an i-LINK project with the Institute of Food Research in Norwich where I will perform a short stay in August 2017. I have been involved in several research contracts with international companies and recently I got funding from the European Union with a proyect co-funded with FEDER funds.

I am member of recognized international scientific societies (SfAM), european research networks (ENGIHR) and expert exchange groups (GMFH Communitiy).

I have contributed to the evaluation process of international research projects for the Argentinean agency ANPCyT-FONCyT, and the Dutch Cancer Society. At IPLA I acted as supervisor of foreign PhD and mobility program students. I have been invited to international courses and congress as professor and chair, respectively.

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Leadership Qualities: I was the principal investigator of four competitive projects, one from INIA (2009-2011), other from MINECO (2015-2018), other from Instituto Danone (2016-2017) and other from IDEPA (2017). I have 27 SCI publications of main author (first, corresponding or last author).
I acted as Associate Editor for JAM and LAM journals (2007-2010). I have participated in invited conferences at different congresess organized by SEM Society (2008, 2011 and 2013). I took part of three scientific thesis Committees (University of Oviedo, Universtiy of Valencia and Universidad Complutense de Madrid). I collaborate regularly as reviewer for 29 SCI journals and act as ANEP evaluator for projects from Plan Estatal de i+D+I (2013-2016).
At present, I am co-director of two thesis; one has already finished the experimental period and will be defended in 2017, and the other has started in 2015. Besides, I was director of three final projects of Master students in Food Biotechnology from University of Oviedo (courses 2010- 2011, 2013- 2014, 2015-2016).
Others:I have experience in docent activities including different postgraduate specialization courses and University teaching activities in the degrees of Veterinary, Food Science and Technology, and Human Nutrition and Dietetics at UCM. I have collaborated in several science dissemination activities such as Semana de la Ciencia y la Tecnología.

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Título:

Aproximación multidisciplinar al estudio de polifenoles de la dieta, incluyendo los no extraíbles

Resumen de la Memoria:

BSc in Food Science and Technology, 2003. 3rd Cycle Fellow at the Autonomous University of Madrid (4 months). PhD at Institute of Food Science, Technology and Nutrition (ICTAN-CSIC) with an I3P-CSIC predoctoral fellowship, 2007. Postdoctoral positions: Complutense University of Madrid (6 months); Institut National de la Recherche Agronomique, France (14 months); Institute of Advanced Chemistry of Catalonia, IQAC-CSIC (Sara Borrell researcher, 29 months); ICTAN-CSIC (Juan de la Cierva researcher, 36 months, currently Principal Investigator of a project from the Young Researchers Program, MINNECO).
My research career has been developed in the field of food bioactive compounds, mostly polyphenols, from a multidisciplinary approach, including:

- Studies on content in foods by advanced analytical techniques. I have carried out several studies on the content in foods of macromolecular antioxidants or non-extractable polyphenols (NEPP), an understudied fraction of these food constituents. Also, I participated in the first application of MALDI-TOF MS/MS to the analysis of some classes of polyphenols.

- Participation in the development of an on-line comprehensive database on polyphenol content in foods (www.phenol-explorer.eu). This database, based on more than 60,000 published data on polyphenol content in foods, includes mean content values for more than 500 polyphenols in more than 400 foods, becoming a reference in the field.

- Bioavailability studies in animal models and in humans. Among other results, they included the identification, by a targeted metabolomics approach using HPLC-MS/MS analysis, of the circulating metabolites in urine after supplementing rats with NEPP concentrates, showing that they also contribute to the circulating pool of polyphenol-derived beneficial metabolites. Also, I am the first author in a systematic review on urinary polyphenol metabolites, derived from a European Network of Excellence.

- In vivo effects in animal models and in humans. During my PhD, I explored the effects of a concentrate rich in dietary fibre and polyphenols in markers of cardiovascular disease risk in humans. Also, during my postdoctoral stay at IQAC-CSIC I performed several studies in rats, aiming to evaluate the effects of different bioactive compounds in the modulation of metabolic syndrome. Back to ICTAN-CSIC, I participated in another clinical trial on the effects of an antioxidant-rich juice in healthy subjects, including a non-targeted metabolomics approach.

- Evaluations of the intake. I applied the Phenol-Explorer database for the comprehensive evaluation of dietary intake of extractable polyphenols in different cohorts (SU.VI.MAX, Predimed), as first step to establish possible associations with polyphenols health effects. Also, since my return to ICTAN-CSIC, I have been working on the contribution of NEPP to total dietary antioxidant capacity intake in Spain and to total polyphenols intake from fruit and vegetables in different European countries.

At present, I am leading a project from the Young Researchers Program, focused on the effects of polyphenols (extractable and non-extractable) from grape and pomegranate in the modulation of metabolic syndrome, including several clinical trials in subjects with metabolic syndrome.

Resumen del Currículum Vitae:

Contributions. Coauthor of 53 papers in JCR journals, being first, second and/or corresponding author in the 74% of them. These papers have been highly cited (> 2,300 citations, h-index: 24), with seven of them being among the ten most cited ones in the respective journal since their publication date (from 2008 to 2013). Coauthor of 6 book chapters (Academic Press, Willey-Blackwell, Elsevier, Springer, CRC Press) and 52 works presented at international congresses (22 oral communications). Coauthor of a patent at PCT stage. Participation in 6 national projects and 7 research contracts with the Administration/ food companies (including Unilever, Danone and Nestlé). Submission of two ideas (one as sole author) for new functional ingredients, which were selected for the II International Food R&D Brokerage Event, Turkey, 2013 (attendance funded by the organization).

Participation in international activities. Member of the Committee of Experts in Human Nutrition of the French Agency for Food Safety, ANSES (personal appointment after public call, period 2015-18). Participation in 5 international projects, including a European Network of Excellence, EURRECA. 28% of the papers including authors with non-Spanish affiliations, derived from multiple international collaborations.

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Logistics Coordinator of two International Courses AECID-CSIC celebrated in Bolivia and Colombia. Member of the Steering Committee of a UK project (2015-18), developed at the University of Glasgow. Submission of a proposal to the ERC Starting Grant 2014 call that passed the first evaluation step- success rate, 25%. Postdoctoral researcher at the Institut National de la Recherche Agronomique, France. Short pre- and postdoctoral stays.

Other merits. ANECA accreditations for Profesor Ayudante Doctor and Profesor Contratado Doctor. Several prizes for dissemination activities, including one from the Spanish Royal Society of Chemistry. Competitive postdoctoral contracts: Sara Borrell 2009 (ISCIII), Juan de la Cierva 2011 (maximum mark in CV evaluation), JAE-Doc 2011(rejected by Juan de la Cierva contract). Reserve in Food Science and Technology area in 2013, 2014 and 2015 Ramón y Cajal calls.

Leadership and independence. Principal Investigator of a project from the Young Researchers Program, MINNECO (success rate, 9%). Corresponding author in 15 JCR papers. Supervision of 14 students - including 3 MSc final dissertations and 2 PhD short stays- a hired laboratory technician and a hired doctor. Editorial Board Member of the Q1 journal Food Research International and Academic Editor of the Q1 journal PeerJ. Guest Editor for two published special issues in journals with impact factor > 3.0. Reviewer for 40 JCR journals since 2012. Member of the jury of PhD theses: University of Barcelona, University of Glasgow, University of Queensland (Australia). Invited seminars: Complutense University, University of Glasgow, Pablo de Olavide University, Research Center on Food Technology (CITA, Zaragoza), Institute for Biomedical Research, La Paz Hospital, Madrid and Madrid Institute for Food Advanced Studies (IMDEA Alimentación) . Project evaluator for research agencies from Chile, Luxembourg, Poland and Spain. Selected to attend to Cantabria Campus Nobel 2012 (100 Spanish researchers) and 2014 European Nutrition Leadership Platform Advanced Seminar (10 European researchers).

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Título:

Innovation in processing technology for the development of high-quality fruit and vegetable convenience products

Resumen de la Memoria:

The applicant started her research career in 2006 working in the Novel Technologies for Food Processing Research Group of the Department of Food Technology from the University of Lleida. Her research work was focused on the evaluation of the effect of emerging food processing technologies on the development of ready-to-eat, safe and healthy vegetable products. A special emphasis was done on the impact of pulsed electric fields (PEF) on quality, health-related and flavour compounds of processed fruit and vegetable juices. In addition, she focused her research on optimizing the PEF treatment conditions in order to maximize quality of those juices by developing inactivation kinetics for relevant enzymes to predict quality changes during processing and subsequent storage. She also focused her research on the development of new strategies to improve and better maintain the quality, nutrition and microbial stability of fresh-cut products. Pulsed light technology was also studied on the microbiological and physiological stability, enzymatic activity, sensory quality and bioactive components of fresh-cut edible mushrooms, avocado and watermelon. Other strategies included the use of natural compounds for the inhibition of browning on fresh-cut pears or the application of modified atmosphere conditions to improve safety and quality of fresh-cut fruits.

She worked and gained a wide experience in different international and reputed research centres in Food Science: the Biochemical and Natural Product Chemistry of the University of Copenhagen (Denmark), Food Science & Technology of University of Cornell (USA), INRA (France) and Food Bioscience Department of Teagasc, Ashtown Food Research Centre (Ireland). She evaluated the effects of different PL equipments on microbiological and physiological stability, enzymatic activity and bioactive compounds of processed tomatoes. Her research work has also been focused on examining agronomic factors, effects of novel (PEF, PL, ultrasound) and conventional thermal processing and storage on the quality and levels of phytochemicals in juices, purees and minimally processed vegetable products. She also coordinated the work towards the post-harvest physiology of those products, process engineering and statistics. She also had the opportunity to actively participate in projects related to the valorization of by-products from food processing. Her scientific training has led to master in the use of pressurized liquid extractors, reverse-phase HPLC (analytical and preparative scale), capillary electrophoresis, 1H-NMR spectroscopy of complex metabolic mixtures. She acquired new practical knowledge on the use of NMR and Chemometrics as a robust tool for assessing quality parameters in processed foods. Currently, her research work is focused on the innovation in processing technology for the development of high-quality fruit and vegetable convenience products. The research line includes topics related with the design, optimization and validation of manufacture processes, increasing valorisation of by-products to high-value food ingredients or by converting by-products to food products and transformation and preservation of foods, mainly fresh-cut and processed fruits and vegetables. A particular focus of her current research is related to the investigation of green and sustainable solutions to food industry challenges.

Resumen del Currículum Vitae:

Ingrid Aguiló obtained the Agricultural Engineering Degree at the University of Lleida (UdL, 2005) and later the Advanced Studies Degree in Food Technology (UdL, 2007). Her PhD (2006-2010) studies were developed in the Novel Technologies for Food Processing Research Group (Department of Food Technology, UdL). During this period, she performed 2 stays in Cornell University (NY, USA) and The University of Copenhagen (Denmark). She received her PhD degree in the doctorate programme of agricultural, forest and food systems in June 2010. Her thesis obtained the highest score (Sobresaliente Cum laude) and was also awarded with the Extraordinary Prize of Doctoral Thesis from the UdL.

She continued her postdoctoral research activity in Avignon (France) for 5 months working in a project between INRA (Mixed Research Unit-UMR408, Qualité des produits d origine végétale) and the company Claranor S.A. In 2011, she was awarded with a Beatriu de Pinós postdoctoral fellowship and spent two years and four months in Teagasc, Food Research Centre Ashtown (Dublin, Ireland). Thanks to this fellow, she returned to Lleida in 2014 working as a postdoc in the Institute of Agrifood Research and Technology (IRTA). Since 2015, she is working as a postdoc in IRTA thanks to the postdoctoral contract grant Ayudas para contratos para la Formación Posdoctoral 2013.

She has participated in 11 research projects funded in competitive calls, 6 national-funded (being PI in two of them), 2 EU-funded (currently being PI in one of them) and 3 Irish-funded. Moreover, she has participated in a total 35 R&D private contracts with public and private entities, being PI of 18 contracts and Co-PI in 3 of them. The research activities of the applicant have resulted in: a total 35 peer reviewed articles in SCI journals (22 in the first quartile), being first author in 23 and corresponding author in 7 of them; 3 book chapters as

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first author (1 Wiley, 1 CRC Press, 1 Nato Science); 5 proceedings; 6 dissemination of scientific knowledge articles; 1 scientific-technical report and 16 Knowledge/Technology Transfer activities of scientific results towards the industry. She is the lead editor of the book Innovative Technologies in Beverage Processing (Wiley: IFST Advances in Food Science) to be published in brief this 2017. The h-index of the applicant is 15, accounting for over 614 citations. Moreover, she has presented 44 communications in national/international conferences and workshops. She has supervised 1 PhD student, 1 master student, 8 bachelor Degree students, 4 of them from EU Mobility Programs, 4 bachelor thesis and 3 higher education students. Currently she is the director of one PhD thesis and co-director of another one. Since 2014, she is also participating in Master□s Degree of Management and Innovation in the Food Industry from the University of Lleida. Her research work during these years gave her the opportunity to collaborate with various groups, both on a national and international level. She is also a reviewer in SCI Journals like Food and Bioprocess Technology, Journal of Food Engineering, Innovative Food Science and Emerging Technologies, Journal of Agricultural and Food Chemistry and LWT-Food Science and Technology.