

## **PERSONAL INFORMATION**

Family name, First name: Alvarez-Ordóñez, Avelino  
ORCID: <http://orcid.org/0000-0002-9951-4786>  
ResearcherID: A-3205-2015  
Date of birth: 19/08/1981  
Nationality: Spanish

## **EDUCATION**

2009, PhD. Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, Universidad de León, León, Spain.  
2004, Doctor in Veterinary Medicine. Faculty of Veterinary Medicine, Universidad de León, León, Spain.

## **CURRENT POSITION(S)**

2016 to date, Associate Professor, Department of Food Hygiene and Technology, Universidad de León, Spain.

## **PREVIOUS POSITIONS**

2014 – 2016, Starting Investigator Research Fellow, Teagasc Food Research Centre, Moorepark, Fermoy, Ireland.  
2013 – 2014, Research Officer, Food Safety Department, Teagasc Food Research Centre, Moorepark, Fermoy, Ireland.  
2012 – 2013, Postdoctoral Researcher, Food for Health Ireland, Cork, Ireland.  
2012 – 2012, Postdoctoral Researcher, Faculty of Veterinary Medicine, Infectious Diseases Unit, Universidad de León, León, Spain.  
2010 – 2011, Postdoctoral Researcher, School of Microbiology, APC, UCC, Cork, Ireland.  
2009 – 2009, High degree researcher, Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, Universidad de León, León, Spain.  
2005 – 2009, PhD student, Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, Universidad de León, León, Spain.

## **FELLOWSHIPS AND AWARDS**

### **Fellowships**

2014 – 2018, Starting Investigator Research Grant received from Science Foundation Ireland, Ireland (€519,532). Teagasc Food Research Centre, Moorepark, Fermoy, Ireland.  
2010 – 2011, Postdoctoral fellowship received from “Alfonso Martín Escudero” Foundation, Spain (€53,500). School of Microbiology, APC, UCC, Cork, Ireland.  
2008, Fellowship to perform a short term research stay from Sept – Dec at the Laboratory of Food Microbiology, Wageningen University, The Netherlands. Received from the Spanish Ministry of Education.  
2007, Fellowship to perform a short term research stay from Aug – Dec at the Laboratory of Food Microbiology, Wageningen University, The Netherlands. Received from the Spanish Ministry of Education.  
2006, Fellowship to perform a short term research stay from June – Sept at the Food Technology group of the University of Zaragoza, Spain. Received from the Spanish Ministry of Education.  
2005 – 2009, PhD fellowship received from Spanish Ministry of Education (€52,800). Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, Universidad de León, León, Spain.

### **Awards**

2016, Special award for young researchers of the Food Microbiology group of the Spanish Society for Microbiology.

2009, “OXOID” award to the best PhD Thesis in Food Microbiology in Spain received from the Spanish Society for Microbiology.

2009, award to the best PhD Thesis received from the Faculty of Veterinary Medicine of the Universidad de León.

2004, First National award to the best student record in “Doctor of Veterinary Medicine” studies in the whole of Spain received from the Spanish Ministry of Education.

2004, award to the best student record in “Doctor of Veterinary Medicine” received from the Universidad de León, Spain.

2004, award to the best student record in “Doctor of Veterinary Medicine” at the Universidad de León received from the “Prof. Dr. Santos Ovejero del Agua” Foundation, Spain.

### **SUPERVISION OF GRADUATE STUDENTS, POSTDOCTORAL FELLOWS AND OTHER RESEARCH STAFF**

2016 to date, Four PhD students, three postdoctoral researchers, four research technicians, six visiting scientists, Universidad de León, Spain.

2013 – 2016, One PhD student and four undergraduate students. Teagasc Food Research Centre, Moorepark, Fermoy, Ireland.

2012 – 2013, One visiting PhD student, one undergraduate student and two research assistants. Food for Health Ireland, School of Microbiology, UCC, Cork, Ireland.

### **TEACHING ACTIVITIES**

2016 to date, more than 500 hours of teaching in the BScs in Food Science and Technology, Veterinary Medicine and Food Engineering and the MSc in Veterinary and Food Sciences. Universidad de León, León, Spain.

### **ORGANISATION OF SCIENTIFIC MEETINGS**

2019, Member of the scientific committee of the Spanish National conference of Food Science and Technology and Food Engineering, León, Spain.

2016, Member of the scientific committee of the Spanish National conference of Food Microbiology, León, Spain.

### **INSTITUTIONAL RESPONSIBILITIES**

2016 to date, Vice-Head of the Institute of Food Science and Technology, Universidad de León, Spain.

### **COMMISSIONS OF TRUST**

2018 to date, Member of the Panel on Biological Hazards (BIOHAZ) of the European Food Safety Authority (EFSA).

2010 to date, Expert in fifteen Working Groups of the Panel on Biological Hazards (BIOHAZ) of the European Food Safety Authority (EFSA).

### **REVIEWING ACTIVITIES**

- Editorial Board of the journals Food Research International, Frontiers in Microbiology, Frontiers in Sustainable Food Systems, Journal of Food Protection, Genes and Current Research in Food Science.

- Review Board of the journals Microbiome, NPJ Biofilms and Microbiomes, Scientific Reports, FEMS Microbiology Reviews, Appl Environ Microbiol, PLoS One, Int J Food Microbiol, J Microbiol Meth, Food Chem, Food Res Int, Food Sci Technol Int, Food Bioprocess Technol, Food Anal Meth, Food Microbiol, J Appl Microbiol, Am J Food Sci Technol, Lett Appl Microbiol, Antibiotics, Mycopathologia, Irish J Agr Food Res, J. Dairy Sci.

- External reviewer of PhD Theses, University of Cartagena, University of Zaragoza, University of Burgos, University of Lleida, Cork Institute of Technology, University of Tasmania.

- Review board of the Spanish Science Research Foundation, Czech Science Foundation, Argentinian Science Foundation, Alberta Livestock and Meat Agency, Research Council of Norway, INRA, Teagasc.

## **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2005 to date, Member, Spanish Society for Microbiology

## **EARLY ACHIEVEMENTS AND TRACK RECORD**

To date I have published 90 articles in international peer reviewed journals, seven book chapters and two books, and I have co-authored 32 scientific opinions in the EFSA Journal. I hold an H-index of 32. I have been invited as keynote speaker at the 2013 and 2014 Safefood Listeria Network conferences, the 2014 and 2016 Spanish National Conferences on Food Microbiology, the 2015 BIOTRACER Workshop on Next Generation PCR and Next Generation Sequencing and the 2016 and 2017 AVESA Food Safety Conferences.

I have taken part in 25 research projects and contracts to date, being the Principal Investigator in 10 of them. The total amount I have raised for research activities in competitive calls (within the last five years) as Principal Investigator is €1,392,330. In 2014 I was awarded a Starting Investigator Research Grant by Science Foundation Ireland (€519,532), which allowed me to start my path as a fully independent researcher. I am currently the PI at Universidad de León (Spain) of a H2020 funded innovation action (€505,000) and a national project funded by the Spanish Ministry of Science (€229,900). In 2015 I was short-listed to the interview stage for a ERC Starting Investigators Award.

During my career I have acquired a solid knowledge on food safety issues, and since 2010 I have been regularly collaborating with the European Food Safety Authority (EFSA). In July 2018 I was appointed as a member of the Panel on Biological Hazards (BIOHAZ) of EFSA for a 3-year mandate, which has been recently extended until 2024. In addition, I have collaborated as a scientific expert in 15 working groups of the BIOHAZ Panel of EFSA, acting as Chair for 5 of them. During these years of collaboration with the BIOHAZ panel of EFSA I have actively participated in the elaboration of 32 scientific opinions published in the EFSA Journal. During 2015 I also participated in working groups of the Teagasc Foresight 2035 exercise (Ireland), aimed at identifying disrupting technologies which will transform the society in the next 20 years.

I am a member of the Editorial Board of the journals Food Research International, Frontiers in Microbiology, Journal of Food Protection, Genes, Frontiers in Sustainable Food Systems and Current Research in Food Science and I have acted as guest editor for BioMed Research International, Frontiers in Microbiology, and Genes. Moreover, I regularly act as ad-hoc reviewer of research projects (Spanish Science Research Foundation, Czech Science Foundation, Argentinian Science Foundation, Alberta Livestock and Meat Agency, Research Council of Norway, INRA, Teagasc) and research articles in a large number of SCI indexed journals (Microbiome, NPJ Biofilms and Microbiomes, Scientific Reports, Appl Environ Microbiol, PLoS one, Int J Food Microbiol, J Appl Microbiol, J Microbiol Meth, among others), and as external examiner of PhD theses at different Spanish and International Universities (Cork Institute of Technology, University of Tasmania, University of Zaragoza, University of Lleida, University of Burgos, University of Cartagena).

In my current role as Principal Investigator I am supervising the work of two postdoctoral researchers, three PhD students and two research technicians, and previously I have coordinated the research work of various research assistants, visiting PhD students and postdoctoral researchers including of five fellows funded by the EU-FORA mobility programme of EFSA.

My main research field can be regarded as “exploiting knowledge on microbial physiology for understanding the adaptation and persistence of foodborne pathogens along the food chain and modulating food related microbiomes”. Within this general field, I develop research activities in the following specific lines: (i) the stress response of bacterial foodborne pathogens and its implications for food safety and the efficacy of food preservation technologies; (ii) the (bio)control of persistent bacteria through novel antimicrobials and anti-biofilm strategies; (iii) the investigation of the role that the food chain plays in the emergence and spread of antimicrobial resistance (AMR); (iv) the characterization of the microbiome of food processing environments with the aim to detect and control persistence episodes, enhance food quality and safety and reduce food waste.

### **Representative publications**

- Alvarez-Molina, A., Cobo-Díaz, J.F., López, M., Prieto, M., de Toro, M., Alvarez-Ordóñez, A., 2021. Unraveling the emergence and population diversity of *Listeria monocytogenes* in a newly built meat facility through whole genome sequencing. *Int. J. Food Microbiol.* 340,109043. DOI: 10.1016/j.ijfoodmicro.2021.109043.
- Mencía-Ares, O., Cabrera-Rubio, R., Cobo-Díaz, J.F., Alvarez-Ordóñez, A., Gómez-García, M., Puente, H., Cotter, P.D., Crispie, F., Carvajal, A., Rubio, P., Argüello, H., 2020. Antimicrobial use and production system shape the fecal, environmental and slurry resistomes of pig farms. *Microbiome*, 8, 164. DOI:10.1186/s40168-020-00941-7.
- Alvarez-Molina, A., de Toro, M., Ruiz, L., López, M., Prieto, M., Alvarez-Ordóñez, A., 2020. Selection for antimicrobial resistance in foodborne pathogens through exposure to UV light and nonthermal atmospheric plasma decontamination techniques. *Appl. Environ. Microbiol.* 86,e00102-20. DOI: 10.1128/AEM.00102-20.
- Alexa, E.A., Walsh, C.J., Coughlan, L.M., Awad, A., Simon, C.A., Ruiz, L., Crispie, F., Cotter, P.D., Alvarez-Ordóñez, A., 2020. Dairy products and dairy-processing environments as a reservoir of antibiotic resistance and quorum-quenching determinants as revealed through functional metagenomics. *mSystems*, 5,e00723-19. DOI: 10.1128/mSystems.00723-19.
- Alvarez-Ordóñez, A., Coughlan, L.M., Briandet, R., Cotter, P.D., 2019. Biofilms in food processing environments: challenges and opportunities. *Ann. Rev. Food Sci. Technol.* 10, 173-195. DOI: 10.1146/annurev-food-032818-121805.
- Oniciuc, E.A., Likotrafiti, E., Alvarez-Molina, A., Prieto, M., López, M., Alvarez-Ordóñez, A., 2019. Food processing as a risk factor for antimicrobial resistance spread along the food chain. *Curr. Opin. Food Sci.* 30, 21-26. DOI: 10.1016/j.cofs.2018.09.002.
- Leong, D., NicAogáin, K., Luque-Sastre, L., McManamon, O., Hunt, K., Alvarez-Ordóñez, A., Scollard, J., Schmalenberger, A., Fanning, S., Ó Byrne, C., Jordan, K., 2017. A 3-year multi-food study of the presence and persistence of *Listeria monocytogenes* in 54 small food businesses in Ireland. *Int. J. Food Microbiol.* 249, pp. 18-26. DOI: 10.1016/j.ijfoodmicro.2017.02.015.
- Elhadidy, M., Alvarez-Ordóñez, A., 2016. Diversity of survival patterns among *Escherichia coli* O157:H7 genotypes subjected to food-related stress conditions. *Front. Microbiol.* 7, 322. DOI: 10.3389/fmicb.2016.00322.
- Leong, D., Alvarez-Ordóñez, A., Jordan, K., 2014. Monitoring occurrence and persistence of *Listeria monocytogenes* in foods and food processing environments in the Republic of Ireland. *Front. Microbiol.* 5, 00436. DOI: 10.3389/fmicb.2014.00436.
- Alvarez-Ordóñez, A., Begley, M., Hill, C., 2012. Polymorphisms in *rpoS* and stress tolerance heterogeneity in natural isolates of *Cronobacter sakazakii*. *Appl. Environ. Microbiol.* 78, 3975-3984. DOI: 10.1128/AEM.07835-11.