

Curriculum Vitae: Dr Geraldine Duffy



Current position

Head of the Food Safety Department, at Teagasc, Agriculture and Food Development Authority, Research Centre, Ashtown, Dublin 15. Responsibilities include

- Managing and implementing the Food Safety Department Research programme, which focuses on microbiological and chemical residue risks in the Irish food chain
- Managing a team of Food Safety staff and Post Graduate students
- Managing resources to deliver the research programme including budget and infrastructure
- Ensuring that Teagasc customer charter, risk management, financial control and corporate governance protocols and procedures are consistently implemented.
- Developing and maintaining effective liaison with relevant Government Departments State bodies, and research bodies at home and abroad, and with stakeholders
- Communication of Teagasc Food Safety Strategy, priorities and programme outputs to relevant stakeholders
- Senior Principal Research Officer carrying out a competitively funded research programme which focuses on assessing and controlling the microbial risk posed by key Food borne pathogens along the “farm to fork” chain

Education:

- Bachelor of Science Degree, University College Dublin, Belfield, Dublin 4. (1988)
- Graduate Diploma in Food Science and Technology, (Dublin Institute Technology, and Institute of Food Science and Technology, U.K.) (1989)
- PhD, University of Ulster, Jordanstown, N.I. (1994)

Fellowships

1993 EU Training fellowship	TNO, The Netherlands Organisation for Applied and Scientific Research
1994 Post-Doctoral fellowship	University of Nottingham and Unilever, Bedford UK.
1996 OECD Fellowship	Eastern Regional Research Centre, Agricultural Research Service, U.S.D.A., Philadelphia

Career highlights

- Have a publication record in peer review journals, books, journals and conference proceedings (h-index 37)
- Supervised over 25 PhD students at national and international universities (2000 to date)
- Have participated in and/or co-ordinated over 30 national research projects on microbial food safety, funded by the Irish Department of Agriculture, Food the Marine under its Food Institutional Research Measure; Enterprise Ireland, Science Foundation Ireland and Safefood (2001 to date)
- Continual involvement since 1998 as a participant and/or coordinator of EU Framework and Horizon 2020 programs in the area of microbial food safety including
 - A European study on animal, food and biomedical aspects of VTEC, including serotype O157 an emerging pathogen, Shigatoxigenic *E. coli* (1998-2001);
 - A risk assessment on *Cryptosporidium parvum* an emerging pathogen in food and water in Europe (2000 - 2003)
 - Improved physiological, immunological and molecular tools for the recovery and identification of emerging Campylobacteriaceae in the food and water chain (2000 to 2004)
 - Improving beef safety and quality through research and innovation (*Prosafebeef*) (2007 to 2012);
 - Selection and improving of fit-for-purpose sampling procedures for specific foods and risks *Baseline* (2010 - 2015);
 - Deployment of high pressure and temperature food processing for sustainable, safe and nutritious foods with fresh-like quality Hipster (2015 to 2017);
 - European Joint Programme on One Health for foodborne zoonoses and antimicrobial resistance One Health EJP (2017 to 2023)
- Scientific Board Member in Horizon 2020 European Joint Programme on One Health for foodborne zoonoses and antimicrobial resistance (2017 to 2023)
- Member of the Scientific Committee of the Food Safety Authority of Ireland (FSAI) and chair of the Biological Safety Committee (2010 to date)
- Member of the Joint FAO /WHO Joint Expert group on Microbiological Risk Assessment (*JEMRA*) (2010 to date)
- Have served as a member of European Food Safety Authority Working groups under its Biohazard panel and have contributed to EFSA scientific opinions, technical guidance and working documents.
- Contributing Editor of Elsevier Journal *Food Microbiology*

- Organiser of national and International conferences and member of international scientific conference committees
- Have served as a reviewer of peer research papers, conference abstracts and expert reviewer of funded research projects and programmes

Selected Publications (n=10)

McCarthy, Siobhán C., Macori, Guerrino Burgess, Catherine M., Fanning, S. and Duffy Geraldine (2021). Prevalence and Whole-Genome Sequence-Based Analysis of Shiga Toxin-Producing *Escherichia coli* Isolates from the Recto- Anal Junction of Slaughter-Age Irish Sheep. *Applied and Environmental Microbiology*. 87, 24 1384

Tassinari, Eleonora, Bawn, Matt, Thilliez, Gaetan, Charity, Oliver, Acton; Luke, Kirkwood, Mark, Petrovska, Liljana, Dallman, Timothy, Burgess, Catherine M, Neil Hall, Neill, Duffy, Geraldine and Kingsley, Robert (2020). Whole-genome epidemiology links phage-mediated acquisition of a virulence gene to the clonal expansion of a pandemic *Salmonella* Typhimurium clone. *Microbial Genomics* Nov; 6(11): mgen000456

Macori, G., McCarthy, S.C, Fanning, S and Duffy, G (2019) A quantitative real time PCR assay to detect and enumerate *Escherichia coli* O157 and O26 serogroups in sheep recto-anal swabs *J. Micro methods* 165:105703

Macori, Guerrino, McCarthy, Siobhan C, Burgess, K, Fanning, S. and Duffy G. (2020) Investigation of the causes of Shigatoxigenic *Escherichia coli* PCR positive and culture negative samples. *Microorganisms* 8 (4) 587

McCabe, E., Burgess, C., Lawal, D., Whyte, D and Duffy, G. (2019) An investigation of shedding and super-shedding of Shigatoxigenic *E. coli* O157 and *E. coli* O26 in cattle presented for slaughter in the Republic of Ireland. *Zoonoses and Public Health* ;1–9.

Arguello, H., Estellé, J., Leonard, F.L., Crispie, F., Cotter, P., O' Sullivan, O., Lynch, H., Walia, K., Duffy, G., Lawlor, P. and Gardiner, G. (2019). Influence of the intestinal microbiota on colonisation resistance to *Salmonella* and the shedding pattern of naturally exposed pigs. *mSystems* 4, 2

Tassinari E, Duffy G, Bawn M, Burgess CM, McCabe EM, Lawlor PG, Gardiner G, Kingsley RA (2019) Microevolution of antimicrobial resistance and biofilm formation of *Salmonella* Typhimurium during persistence on pig farms. *Scientific reports: Nature* 20;9(1):8832.

Murphy, B.P., McCabe, E., Murphy, M., Buckley, J.F., Crowley, D., Fanning, S., and Duffy, G. (2016). Longitudinal Study of Two Irish Dairy Herds: Low Numbers of Shiga Toxin-Producing *Escherichia coli* O157 and O26 Super-Shedders Identified. *Front Microbiol*. 18;7:1850.

O'Leary, D., McCabe, E.M., McCusker, M.P., Martins, M., Fanning, S. and Duffy, G. (2015). Acid environments affect biofilm formation and gene expression in isolates of *Salmonella enterica* Typhimurium DT104. *Int J Food Microbiol*. 3; 206: 7-16

Thomas, K.M., McCann, M., Collery, M.M, Logan, A., Whyte, P., McDowell, D.A. and Duffy, G, (2012). Tracking Verocytotoxigenic *Escherichia coli* O157, O26, O111, O103 and O145 in Irish Cattle at slaughter. *Int J. Food Micro* 153(3):288-96