

Lisa Williams

Research interests

My research focuses on the foodborne pathogen *Campylobacter* spp. I have built up a body of work on this pathogen which includes detection, isolation and confirmation from naturally contaminated samples, detection of antibiotic resistance and molecular characterisation using conventional PCR, quantitative real time PCR, pulsed field gel electrophoresis, denaturing gradient gel electrophoresis, *flaA* short variable region sequencing, multi locus sequence typing and whole genome sequencing. I also have many years' experience of chicken infection studies. I have used *in-vitro* and *in-vivo* models to examine the immunological response of chickens to challenge with *Campylobacter* spp. The effect of diet on the carriage of *Campylobacter* spp., co-infection with other bacterial pathogens and feed and water interventions to reduce colonisation of *Campylobacter* spp have all been examined with *in-vivo* models. I have experience of working with *Salmonella*, *Staphylococcus*, *E.coli* and *Pseudomonas*.

My current research is examining how stress during rearing and processing affects the carriage of *Campylobacter* in broiler chickens. I am also examining the interaction of *Campylobacter* and Avian Pathogenic *E. coli* using *in-vitro* models.

Publications

Book chapters:

- Tom J Humphrey and Lisa K Williams. Zoonoses affecting poultry: the case of *Campylobacter*. In Steven C Ricke (Eds) Achieving sustainable production of poultry meat, Volume 1: Safety, quality and sustainability. (2017, Chapter 1) Publisher Burleigh Dodds Science Publishing, USA, ISBN: 978-1-78676-064-7.
- Lisa K Williams, Belchiolina Beatriz Fonseca and Tom J. Humphrey. *Campylobacter jejuni* in poultry: A commensal or a pathogen? In Belchiolina Beatriz Fonseca, Heriberto Fernandez, Daise Aparecida Rossi (Eds) *Campylobacter* spp. and Related Organisms in Poultry: Pathogen-Host Relationship, Diagnosis and Epidemiology. (2016, Chapter 5), Publisher Springer, Switzerland, ISBN 978-3-319-29906-8.
- Lisa Williams, Emma Trantham and Tristan Cogan. Conditional Commensalism of *Campylobacter* in Chickens? In Sheppard, S.K. & Méric G. (Eds.), *Campylobacter* Ecology and Evolution (April 2014, Chapter 22), Publisher: Caister Academic Press, Norwich, ISBN: 978-1908230362.

Selected Academic journal papers:

- Waheed Jowiya, Katja Brunner, Sherif Abouelhadid, Haitham A. Hussain, Sean P. Nair, Sohaib Sadiq, Lisa K. Williams, Emma K. Trantham, Holly Stephenson, Brendan W. Wren, Mona Bajaj-Elliott, Tristan A. Cogan, Andrew P. Laws, Jim Wade, Nick Dorrell and Elaine Allan. Pancreatic Amylase is an Environmental Signal for Regulation of Biofilm Formation and Host Interaction in *Campylobacter jejuni*. *Infection and Immunity* 2015 Dec; 83: 4884-4895
- L.K. Williams, L.C. Sait, E.K Trantham, T. J. Humphrey and T.A. Cogan. *Campylobacter* infection has different outcomes in fast and slow growing broiler chickens. *Avian Disease* 2013 Jun; 57: 238-241
- Lisa K Williams, Leanne C Sait, Tristan A Cogan, Frieda Jorgensen, Rose Grogono- Thomas, Tom J Humphrey. Enrichment Culture can bias the isolation of *Campylobacter* subtypes. *Epidemiology and Infection* 2012 Jul;140(7):1227-35
- Jennings JL, Sait LC, Perrett CA, Foster C, Williams LK, Humphrey TJ, Cogan TA. *Campylobacter jejuni* is associated with, but not sufficient to cause vibriotic hepatitis in chickens. *Vet Microbiol.* 2011 Apr 21;149(1-2):193-9
- Williams LK, Jørgensen F, Grogono-Thomas R, Humphrey TJ. Enrichment culture for the isolation of *Campylobacter* spp: Effects of incubation conditions and the inclusion of blood in selective broths. *Int J Food Microbiol.* 2009 Mar 31;130(2):131-4

Invited articles:

Lisa Williams. Latest research developments in *Campylobacter* and poultry. *Meat Trades Journal*, November 2010