

Jessica Jolley

Senior Research Scientist (Statistics)

Food Safety and Innovation

SOUTH
AUSTRALIAN
RESEARCH &
DEVELOPMENT
INSTITUTE
PIRSA

Qualifications

BMa (App Maths, Stats) University of Adelaide
MPhil (Stats) University of Adelaide

Role

Jessica Jolley is the Senior Research Scientist (Statistics) within the Food Safety and Innovation science program at SARDI. Her role is responsible for providing statistical and mathematical skills and expertise to research projects related to agriculture, food safety and food innovation. She also develops and delivers industry-focused multi-stakeholder research projects which address industry needs.

Research focus

As the senior research statistician, key duties include providing quantitative advice, consulting and collaboration on the design, analysis and interpretation of experiments, surveys and other studies. The breadth of the applications for Jessica's quantitative skills includes food safety, food innovation, sensory and microbiology in food groups and food industries in South Australia and Australia.

Another area of research focus is food safety in the red meat (beef, sheep) and pork processing industries. Jessica's expertise is in process control and monitoring of foodborne microbiological pathogens.

Jessica is the winner of the 2015 Science and Innovation Award for Young People in Agriculture, Fisheries and Forestry in the Red Meat Processing category with her project "Wherefore Art Thou, *E.coli*? An Approach to Mapping the Presence of *E. coli* on a Beef Carcase".

Major projects

Jessica is currently the Principal Investigator of a number of projects funded by Meat and Livestock Australia, Australian Pork Limited, Pork CRC and Australian Meat Processors Corporation.

Jessica is a co-investigator in more than sixty industry projects related to the production of food, food safety and product development. A number of major projects are:

- Delivering a five-day workshop on designing and managing a national food standards monitoring program with statistical training to a Saudi Food and Drug Authority delegation.

- Benchmarking the microbiological and processing performance of Australian export pork establishments nationally.
- Analysis of the national *E. coli* and *Salmonella* Monitoring program data; distributing monthly ESAM reports to all Australian export meat slaughter establishments and reporting national statistics to government and peak industry bodies.
- National prevalence surveys
 - Marine biotoxins in Australian wild abalone
 - Norovirus and Hepatitis A virus in fresh Australian greens and berries
 - Norovirus in Australian oysters
- Uptake and depuration of paralytic shellfish toxins in Southern Rock Lobster.
- Sensory trials to assess the eating quality of pork or consumer preference of potato varieties.
- Simulation and modelling of potato chip manufacturing, assessing the impact of different varieties, sizes and gradients on yield and wastage.
- The SARMS Transforming Riverland Food Loss & Industry Waste into Profit project aimed at understanding and transforming horticultural food loss and industry waste into productive value-added outputs that contribute to the circular economy.
- SARDI's Functional Food Focus program which is developing and promoting food with health benefits beyond standard nutrition, such as 'healthy fatty acid' sheep meat and nutritionally enhanced eggs.

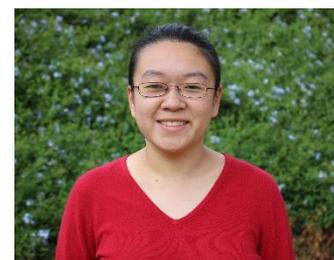
Key publications

Gole, V. C., Chousalkar, K. K., Roberts, J. R., Sexton, M., May, D., **Tan, J.** & Kiermeier, A. (2014). *Effect of Egg Washing and Correlation between Eggshell Characteristics and Egg Penetration by Various Salmonella Typhimurium Strains*. PLoS one, 9(3), e90987.

Malhi, N., Turnbull, A., **Tan, J.**, Kiermeier, A., Sehmbi, A., Nimmagadda R. & McLeod, C. (2014). *A National Survey of Marine Biotoxins in Wild Caught Abalone in Australia*. Journal of Food Protection, Vol 77, No. 11, p.1960-1967.

Boards/Committees

Australian Pork Limited's Specialist Group 4: Food Safety, Biosecurity and Quality Assurance



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