

Dr Valeria Torok

Research Scientist

Food Safety and Innovation

SOUTH
AUSTRALIAN
RESEARCH &
DEVELOPMENT
INSTITUTE
PIRSA

Qualifications

BSc (Hons) University of Adelaide
PhD University of Adelaide

Role

Dr Valeria Torok is a Research Scientist with SARDI Food Safety and Innovation.

Research focus

Valeria completed her PhD in the field of plant virology. She has worked in Germany as a post-doctoral researcher on a collaborative EU funded project where she characterised a new virus (*Lettuce ring necrosis virus*) of agricultural importance.

Valeria commenced employment at SARDI in 2004 as a molecular microbiologist with particular interest in microbial community ecology and the role of gut microbiota in livestock production, gut health and ruminant greenhouse gas emissions.

In 2012, she joined the Food Safety and Innovation group with specific interests in foodborne virology, development of novel, rapid diagnostics for foodborne hazards and naturally functional foods.

Major projects

Valeria has been key in establishing virus testing capability for Norovirus (NoV) and Hepatitis A virus (HAV) in foods; in particular shellfish and fresh produce. She has also established virus culture capability to enable studies of virus infectivity and deactivation. SARDI Food Safety and Innovation has supported both industry and regulators in testing foods implicated in foodborne virus outbreaks. Valeria has been Principal Investigator on projects undertaking prevalence surveys for NoV and HAV in market ready Australian oysters and in fresh Australian berries and leafy greens at retail. Results of the retail survey have been used to develop a risk profile for enteric foodborne viruses in fresh Australian produce at retail.

Valeria also has an interest in developing rapid diagnostics and biosensors. She is collaborating nationally and internationally with multidisciplinary teams in developing biosensors to NoV. Her focus is on developing novel and sensitive bioreceptors or target receptors for capturing

pathogens or hazards of interest. These can be based on either antibody or nucleic acid "aptamer" approaches.

Valeria is a participant in SARDI's Functional Food Focus Program where she is investigating 'healthy fatty acid' sheep meat and nutritionally enhanced eggs.

Key publications

Gole VC, Torok V, Sexton M, Caraguel CGB and Chousalkar KK (2014) Association between indoor environmental contamination by *Salmonella enterica* and contamination of eggs on layer farms. *J Clin Microbiol*, 52: 3250-3258.

Madigan T, Bott N, Torok V, Percy N, Carragher J, de Barros Lopes M and Kiermeier A (2014) A microbial spoilage profile of half shell Pacific oysters (*Crassostrea gigas*) and Sydney rock oysters (*Saccostrea glomerata*). *Food Microbiol* 38: 219-227.

Torok VA (2013) Review of foodborne viruses in shellfish and current detection methodologies. <http://safefish.com.au/wp-content/uploads/2013/03/6.Review-of-Food-Borne-Viruses.pdf>

Samanta A, Torok V, Percy N, Abimosleh S and Howarth G (2012) Microbial fingerprinting detects unique bacterial communities in the faecal microbiota of rats with experimentally-induced colitis. *The J of Microbiol*, 50: 218-225.

Torok VA, Hughes RJ, Mikkelsen LL, Perez-Maldonado R, Balding K, MacAlpine R, Percy NJ and Ophel-Keller K (2011) Identification and characterization of potential performance-related gut microbiotas in broiler chickens across various feeding trials. *Appl Environ Microbiol*, 77: 5868-5878.

Vaira AM, Accotto GP, Gago-Zachert S, Garcia ML, Grau O, Milne RG, Morikawa T, Natsuaki T, Torok V, Verbeek M and Vetten HJ (2005) The Genus *Ophiovirus*. In Fauquet CM, Mayo MA, Maniloff J, Desselberger U and Ball LA (Eds), *Virus Taxonomy - Classification and Nomenclature of Viruses. Eighth Report of the International Committee on Taxonomy of Viruses*. (pp. 673 - 679). London, UK: Elsevier Academic Press.



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