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Molecular epidemiology and diagnosis of infectious diseases of wildlife

Armanda Bastos is a professor in the Department of Zoology and Entomology at the University of Pretoria. She previously held a senior veterinary researcher position at the Onderstepoort Veterinary Institute (OVI) where she worked on the molecular epidemiology and diagnosis of foot-and-mouth disease, and African swine fever.

She has published 63 scientific papers, two book chapters and numerous national and international conference proceedings on a range of viral and bacterial diseases in wildlife. She has an h-index of 20 (Thomson ISI), is on the *BMC Genetics* editorial board and was the recipient of the OVI Director's Award (1997/8), as well as the University of Pretoria's Exceptional Young Researcher Achievement Award (2004).

Research

Molecular approaches are used to determine the prevalence and diversity of pathogens, and to characterise the hosts that carry them. Regional host and pathogen diversity often requires the custom development of methods that enable the rapid detection and/or identification of target disease agents and/or the host species that carry them. The data generated are then applied in epidemiological studies for further refinement of diagnostics, to guide the selection of appropriate vaccine strains, and to aid the development of conservation-cognisant disease control policies.

Key Publications

Bastos, A.D.S., Nair, D., Taylor, P.J., Brettschneider, H., Kirsten, F., Mostert, M.E., Von Maltitz, E., Lamb, J.M., Van Hoof, P., Belmain, S.R., Contrafatto, G., Downs, S. & Chimimba, C.T. 2011. Genetic monitoring detects an overlooked cryptic species and reveals the diversity and distribution of three invasive *Rattus* congeners in South Africa. *BMC Genetics* 12:26.

Van Sandwyk, J., Bennett, N.C., Swanepoel, R. & Bastos, A.D.S. 2013. Retrospective genetic characterisation of encephalomyocarditis viruses from African elephant and swine recovers two distinct lineages in South Africa. *Veterinary Microbiology* 162: 23-31.

Penrith, M.L., Vosloo, W., Jori, F. & Bastos, A.D.S. 2013. African swine fever virus eradication in Africa. *Virus Research* 173: 228-246. (Review)

