



Prof Estelle H Venter

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Bluetongue and lumpy skin disease viruses

Estelle Venter obtained a PhD in 1993 with her thesis entitled 'The development of a group-specific diagnostic probe for the detection of the 24 serotypes of bluetongue virus'. She was appointed as senior lecturer in the Department of Veterinary Tropical Diseases in 1988 and was promoted to associate professor in 1997 and professor in 2012. Her research findings have been presented at 42 international conferences and 80 national conferences. She is the author/co-author of 58 scientific publications. During the past five years she has refereed 33 manuscripts for various scientific journals. She was a referee for grant proposals of the NRF and has assisted in the rating process of scientists. To date, 31 postgraduate students completed their studies under her supervision/co-supervision: three BSc(Hons), 22 MSc and six PhD candidates. Currently, five MSc and three PhD candidates are enrolled under her supervision/co-supervision. She is a NRF C2 rated scientist.

Research

Prof Venter works on the economically important diseases bluetongue and lumpy skin disease (LSD). Bluetongue is an endemic disease in South Africa and recently caused major outbreaks in Europe. Lumpy skin disease is an economically important viral disease of cattle of all breeds occurring in Africa and parts of the Middle East.

Her research concerns *in vitro*, cell-virus interaction and *in vivo* virulence studies using reassortant BTVs as well as oral susceptibility studies in the *Culicoides* vector using reassortant viruses. The evaluation of the characteristics of reassortants of the BTV vaccine strain with the European BTV strain also forms part of her bluetongue research. Her research in the field of LSD examines virus replication kinetics as well as virogenesis studies in ticks. She has specifically investigated aspects of LSD virus infection, including detection, transmission, vector studies, antibody protection, secretion and its effect on semen.

Key Publications

Venter, E.H., Gerdes, T., Wright, I. & Terblanche, J. 2011. An investigation into the possibility of bluetongue virus transmission by transfer of infected ovine embryos. *Onderstepoort Journal of Veterinary Research* 78(1): Art. #17. DOI:10.4102/ojvr.v78i1.17.

Coetzee, P., Van Vuuren, M., Stokstad, M., Myrmel, M. & Venter, E.H. 2012. Bluetongue virus genetic and phenotypic diversity: towards identifying the molecular determinants that influence virulence and transmission potential. *Veterinary Microbiology* 162: 1-12. DOI: 10.1016/j.vetmic.2012.07.007.

Coetzee, P., Stokstad, M., Myrmel, M., Mutowembwa, P., Loken, T., Venter, E.H. & Van Vuuren, M. 2013. Transplacental infection in goats experimentally infected with a European strain of bluetongue virus serotype 8. *The Veterinary Journal*. DOI: 10.1016/j.tvjl.2013.01.005.

Annandale, C.H., Holm, D.E., Ebersohn, K. & Venter, E.H. 2012. Seminal transmission of lumpy skin disease virus in heifers. *Transboundary and Emerging Diseases*. DOI: 10.1111/tbed.12045.

Lubinga, J., Tuppurainen, E., Ebersohn, K., Coetzer, J.A.W., Stoltz, H. & Venter, E.H. 2013. Detection of lumpy skin disease virus in saliva of ticks fed on lumpy skin disease virus infected cattle. *Experimental and Applied Acarology*. DOI: 10.1007/s 10493-013-9679-5.