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Infectious diseases at the livestock/wildlife/human interface

Darryn Knobel completed his Degree in Veterinary Science at the University of Pretoria in 1999. In 2009 he obtained a PhD from the University of Edinburgh, where he received the University of Edinburgh's Centre for Infectious Diseases Ker Memorial Prize for outstanding research in infectious diseases by a PhD candidate. From 2003 to 2010 he worked as a research assistant at the Centre for Tropical Veterinary Medicine, University of Edinburgh, and as a postdoctoral research assistant at the Boyd Orr Centre for Population and Ecosystem Health, University of Glasgow, which included research projects in Ethiopia, Tanzania and Kenya. In 2010 he was appointed as a full-time senior lecturer in the Department of Veterinary Tropical Diseases and promoted to associate professor in 2013. His research findings have been presented at 16 international conferences. He has authored or co-authored 25 scientific publications and two book chapters.

Research

Prof Knobel's research focuses on understanding the epidemiology and impact of infectious diseases at the livestock/wildlife/human interface via a 'One Health' approach, through the establishment of continuous longitudinal demographic and health monitoring (health and demographic surveillance systems) in geographically defined host populations (livestock and dogs) at the wildlife-livestock interface in Mpumalanga Province, South Africa. The objectives of these systems are: to accurately measure host demographic parameters and rates of disease, to identify determinants of health and (for livestock) productivity; and to provide a platform for testing interventions aimed at disease control and production improvement. These systems will create broad platforms from which a wide spectrum of questions related to disease epidemiology and control, livestock management, productivity, marketing and health, as well as broader socio-economic, development and land-use issues at the wildlife-livestock interface can be addressed.

Key Publications

Gsell, A.S., Knobel, D.L., Kazwala, R.R., Vounatsou, P. & Zinsstag, J. 2012. Domestic dog demographic structure and dynamics relevant to rabies control planning in urban areas in Africa: the case of Iringa, Tanzania. *BMC Veterinary Research* 8: 236. DOI: 10.1186/1746-6148-8-236.

Haydon, D.T., Randall, D.A., Matthews, L., Knobel, D.L., Tallents, L.A., Gravenor, M.B., Williams, S.D., Pollinger, J.P., Cleaveland, S., Woolhouse, M.E.J., Sillero-Zubiri, C., Marino, J. & Laurenson, M.K. 2006. Low-coverage vaccination strategies for the conservation of endangered species. *Nature* 443: 692-695. DOI: 10.1038/nature05177.

Knobel, D.L., Cleaveland, S., Coleman, P.G., Fèvre, E.M., Meltzer, M.I., Miranda, M.E.G., Shaw, A., Zinsstag, J. & Meslin, F-X. 2005. Re-evaluating the burden of rabies in Africa and Asia. *Bulletin of the World Health Organization* 83: 360-368. <http://www.who.int/bulletin/volumes/83/5/Knobel0505abstract/en/index.html>

