

● **Managing a multi-skilled collaborative research project towards point-of-care diagnostics for veterinary practice**

Tools to diagnose human diseases at the bedside of the patient and to assess treatment in real time, have led to great advances in human medicine. In contrast, the uptake of these technologies has been slow in veterinary medicine and many zoonotic and animal diseases cannot be readily and definitively diagnosed in the field. The panel will explore strategies on how to bridge the gap between research into veterinary diseases and the development of economically viable point-of-care diagnostic tools.

According to the latest predictions, the rapidly growing veterinary diagnostic sector will be worth an estimated \$4 billion per annum by 2026. This will in part be underpinned by the increasing affordability of advanced technologies and diagnostic tools. The objective for this discussion is to combine the insights and the strengths of the panel members to develop a road map to commercialisation of veterinary point-of-care diagnostic tests.

The panel will consider the barriers to the creation of these innovation outputs and tangible value. In addition, the role of the diverse stakeholders in the veterinary research innovation arena will be unpacked: namely the research and innovation managers, basic researchers, clinician-scientists, veterinary private practitioners and industry specialists. With regards to the panel members and considering the stakeholders, the Faculty of Veterinary Science of the University of Pretoria in South Africa, that was established in 1920 as a daughter organisation of the world-renowned Onderstepoort Veterinary Research Institute, is uniquely placed to participate in multi-skilled research and innovation projects which could unlock the potential of African disease models. The Faculty has existing networks which includes the best scientists and scientific infrastructure at the University of Edinburgh and access to data from state-of-the-art academic hospital as well as from private veterinary hospitals in South Africa and the United Kingdom.

Presenters:

- **Prof Johan Schoeman, University of Pretoria (South Africa)**

Johan qualified as a veterinarian from the University of Pretoria in 1991. After spending seven years working in a veterinary mixed (small and large animal) practice in the United Kingdom, he was appointed as a lecturer at the University of Cambridge. He joined the Department of Companion Animal Clinical Studies at the Veterinary Faculty of the University of Pretoria as a senior lecturer in 2000. In 2001, he obtained specialist qualifications in Small Animal Medicine from the Royal College of Veterinary Surgeons (DSAM), the European College of Veterinary Internal Medicine (ECVIM) and the University of Pretoria (MMedVet). He holds a PhD from the University of Cambridge. He was the Head of the Department of Companion Animal Clinical Studies from 2009 to 2017. He currently leads the Faculty's Pathobiology Research Unit. He was elected a Fellow of the RCVS for meritorious contributions to knowledge in 2020. Johan published 65 scientific papers, 10 textbook chapters, and presented over 80 international scientific, peer-reviewed congress presentations in Europe and the USA. His research straddles the nexus between veterinary endocrinology, critical illness and inflammation, using canine babesiosis and parvoviral diarrhoea as models..
- **Mr Richard Mellanby, University of Edinburgh (Scotland)**

Richard graduated from University of Glasgow in 1998 and after two years in small animal practice, he completed a 3-year residency in small animal medicine at the University of Cambridge. He was awarded the RCVS Certificate in Small Animal Medicine in 2001, the RCVS Diploma in Small Animal Medicine in 2003 and the ECVIM Diploma in Companion Animal medicine in 2004. He was then awarded a Wellcome Trust Clinical Training Fellowship to undertake studies into T cell activation and regulation in diabetes for which he was awarded a PhD in 2007. He moved to the University of Edinburgh in 2007 and worked as clinical fellow dividing his time between clinical work and research. He was awarded a second Wellcome Trust fellowship to continue his studies into T cell activation in 2008. He was appointed Head of Small Animal Medicine in 2011 and Head of Veterinary Clinical Research in 2012. In 2012 he was awarded a third Wellcome Trust fellowship to explore how antigen presentation cells activate a pathogenic T cell response. Richard established the Vitamin D Animal Laboratory (VitDAL). VitDAL brings together expertise in clinical veterinary endocrinology and nutrition, proteomics and immunology with the overarching ambition of advancing understanding of vitamin D biology in all species. <http://mellanbylab.org/>

Richard has published over 110 peer reviewed publications. He was promoted to Head of Companion Animal Sciences in 2016 and am currently a Reader in Comparative Medicine. He was awarded the Petplan Scientific Achievement Award and elected a Fellow of the RCVS for meritorious contributions to knowledge in 2016. Richard was appointed the Global Head of Innovation for Idexx Laboratories at the end of 2022.

- Dr Gareth Zeiler, Valley Farm Animal Hospital (South Africa)
Runs the anaesthesia and critical care service at Valley Farm Animal Hospital. Apart from these duties he also actively trains residents who are specialising in veterinary anaesthesia and emergency and critical care. He graduated from the Faculty of Veterinary Science at the University of Pretoria in 2006 and returned in 2011 to specialise in veterinary anaesthesia.
Since then, he has passed board examinations in anaesthesia in Europe (Dipl. ECVAA) and I America (Dipl. ACVAA) and in emergency and critical care in Europe (Dipl. ECVECC). He holds two doctoral degrees, a PhD from the University of Pretoria and a PhD from the University of the Witwatersrand in Johannesburg, South Africa. In addition to his duties at Valley Farm Animal Hospital, Gareth is an extraordinary lecturer at the Faculty of Veterinary Science at the University of Pretoria where he trains undergraduate and postgraduate students. His fields of interest in research are fluid dynamics and management in domestic animals, and the physiology of wildlife immobilisation and anaesthesia. Gareth has published over 53 peer reviewed publications.
 - Ms Annette Boshoff, University of Stellenbosch (South Africa)
Annette has been involved with research support for a number of years and currently works as freelance research consultant and M&E consultant for knowledge-based institutions. She studied law and economics at the University of Pretoria and holds a Masters degree from the University of Cambridge in the United Kingdom. She has a special interest and expertise in social capital building. Annette is currently conducting a bibliometric analysis of veterinary research in South Africa under the auspices of the Centre for Research on Evaluation, Science and Technology at the University of Stellenbosch. The bibliometric analysis is undertaken with reference to the pertinent historic events and key role players over the past century.
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