Trends In Swine Infectious Diseases

3 November 2017
Moredun Research Institute,
Pentlands Science Park, near Edinburgh, EH26 0PZ
Event Programme

9.30 – 9.50  Registration and Coffee

9.55 - 10.00  Welcome
Julie Fitzpatrick, Scientific Director, Moredun Research Institute

10.00 - 10.10  Introduction: Infectious Diseases and the Pig Industry
John Mackinnon, Chairman, Moredun Scientific

10.10 – 10.55  Emerging Infectious Diseases of Pigs
Joaquim Segalés, Universitat Autònoma de Barcelona, CReSA

10.55 - 11.25  How We Detect New and Emerging Disease Threats in GB Pigs
Susanna Williamson, Animal and Plant Health Agency

11.25 - 11.35  Pathogenesis and Immunogenicity of Atypical Porcine Pestivirus (PhD Project)
Francesca Chianini, Moredun Research Institute

11.35 – 11.55  The Elusive T Cell Vaccine: Lessons from Pigs and Foot-and-Mouth Disease Virus
Bill Golde, Moredun Research Institute

11.55 - 12.15  Toxoplasmosis: Risk, Impact and Control Strategies
Elisabeth Innes, Moredun Research Institute

12.15- 13.45  Lunch and Networking

13.45 - 14.30  Will PRRSV Ever be Defeated?
Tanja Opriessnig, The Roslin Institute

14.30 - 15.00  Recent Trends in Swine Enteric Diseases
Jill Thomson, SAC Veterinary Services

15.00-15.30  Bacteriophages for Pig Enteric Pathogens, a Very Promising Alternative to Antibiotics
Anisha Thanki, University of Leicester

15.30-15.50  Developments in Porcine Disease Models
David Reddick, Moredun Scientific

15.50-16.00  Final Remarks and Conference Close
John Mackinnon

16.00 -16.30  Coffee and Networking
Speaker Biographies

**John Mackinnon, Chairman, Moredun Scientific**

John is the Chairman of Moredun Scientific. He graduated in Veterinary Medicine and Surgery from The Royal Veterinary College, University of London. He is a Fellow of the RCVS for studies in the use of antibiotics in livestock production and holds the RCVS Certificate in Pig Medicine. He is a former President of the Pig Veterinary Society and was the inaugural President of the European Association for Porcine Health and Management.

After a short time in mixed practice, followed by a period in industry as Technical Services Manager for Elanco Animal Health and subsequently Senior Research Veterinarian at the Lilly Research Laboratories, John returned to veterinary practice where, for the past 30 years, he has specialised in pig medicine and production. He is a Royal College of Veterinary Surgeons (RCVS) Advanced Practitioner in pig medicine.

**Joaquim Segalés, Universitat Autonoma de Barcelona, CReSA**

Joaquim gained his DVM and PhD degrees in 1991 and 1996, respectively, at the Universitat Autònoma de Barcelona, UAB (Spain). He received his Dipl. European College of Veterinary Pathologists (ECVP) in 2000, and the Dipl. European College of Porcine Health Management (ECPHM) in 2004. Dr Segalés was a founding member of the ECPHM and president of this College between 2013 and 2016. He is an Associate Professor at the Veterinary School of the UAB (within the Department of Animal Health and Anatomy). He is also a researcher of the Centre de Recerca en Sanitat Animal (CReSA) and was its director during the period 2012-17. Dr Segalés has served as a diagnostician at the Pathology Department of the Veterinary School of Barcelona since 1993 with a focus on infectious diseases. He has co-authored more than 250 articles in international peer-reviewed journals, and has recently started working on MERS (Middle East Respiratory Syndrome)-coronavirus infection animal models.

**Susanna Williamson, Animal and Plant Health Agency**

Susanna is the Veterinary Lead for the Pig Expert Group at the Animal and Plant Health Agency (formerly AHVLA, formerly VLA). She works with colleagues to develop and deliver surveillance for, and consultancy on, pig diseases and disease threats. Susanna leads the Defra-funded pig disease scanning surveillance project in APHA, and is current Senior Vice-President of the Pig Veterinary Society. Susanna was previously a Veterinary Investigation Officer at Bury St Edmunds undertaking diagnostic post-mortem examinations and disease investigations in livestock and wildlife and has been involved in pig-orientated surveillance projects on *Salmonella*, *Leptospira* infections, porcine circovirus-2 associated disease, porcine respiratory and reproductive syndrome virus, swine influenza and porcine epidemic diarrhoea. She qualified as a veterinary surgeon from the Royal Veterinary College, London and spent two years in mixed veterinary practice in Oxford then gained a PhD for work on tropical theileriosis, in cattle. This was followed by work on smallholder dairy farm projects in Africa on the diagnosis, epidemiology and control of tick-borne diseases of cattle. She returned to UK in 1999 and joined the VLA in Bury St Edmunds in 2000.

**Francesca Chianini, Moredun Research Institute**

Francesca Chianini graduated in 1995 from Pisa Vet School in Italy. She practised in central Italy for two years before joining the Department of Pathology at the Universidad Autonoma de Barcelona in Spain where she carried out a Marie Curie funded PhD on Circovirus in pigs.

In 2002 she moved to the Moredun Research Institute where she led the Transmissible Spongiform Encephalopathy (TSE) group until 2012. She currently provides veterinary pathology expertise for Moredun research projects covering a number of bacterial, parasitological and viral diseases of sheep and cattle, as well as undertaking consultancy neuro-histopathological surveillance of diseases of farmed livestock in Scotland.

**Bill Golde, Moredun Research Institute**

Bill joined the Moredun Research Institute as a Principal Scientist in the Vaccines Pillar in 2016. For the previous 17 years, Dr. Golde led the immunology laboratory at the USDA’s Plum Island Animal Disease Center (PIADC) investigating immune responses of swine and cattle to foot-and-mouth disease virus (FMDV) infection. The Golde lab has developed new technologies to more closely track immune responses of swine and cattle, and using that information, has now designed new vaccine strategies to broaden the immune response to FMDV by targeting T cell responses. These techniques are now being applied to critical diseases of cattle and swine in addition to continuing FMDV vaccine development. Since joining Moredun, Dr. Golde’s lab continues to expand and refine these technologies in order to enhance assessment of vaccine performance.
Jill graduated from University of Pretoria, South Africa and after time in mixed practice completed a PhD in infections and can be used to develop specific bacterial diagnostic tests. In her post-doctoral research her PhD focused on identifying and utilising the potential of bacteriophages, which are viruses that specifically infect bacteria. Bacteriophages offer a natural alternative to antibiotics in treating bacterial inflammation at the University of Leicester. She then pursued a PhD at Loughborough University.

Anisha graduated from Kings College London and completed her MSc in Infection, immunity and inflammation at the University of Leicester. She then pursued a PhD at Loughborough University. Her PhD focused on identifying and utilising the potential of bacteriophages, which are viruses that specifically infect bacteria. Bacteriophages offer a natural alternative to antibiotics in treating bacterial infections and can be used to develop specific bacterial diagnostic tests. In her post-doctoral research Anisha was funded by AHDB Pork and focused on isolating bacteriophages against the enteric pathogens of pigs: *Salmonella* spp. and *Brachyspira hyodysenteriae*, the causative agent of swine dysentery. Her aim was to identify a set of bacteriophages that could be used therapeutically to treat these infections in pigs and significant progress has been made. Throughout the project she liaised with the Animal and Plant health agency (APHA) and their input has been invaluable.

David graduated from the University of Edinburgh with a BSc (Hons) in Zoology and from Heriot Watt University with a MSc in Biotechnology. He joined Moredun Scientific in 1997 and is currently responsible for the animal health division of the company which specialises in the conduct of safety and efficacy studies in livestock for veterinary medicinal products on behalf of the animal health industry. He has been heavily involved in the introduction of porcine research at Moredun and in the development of the Moredun Scientific porcine challenge model portfolio.

Elisabeth Innes holds an honours degree in Immunology from the University of Edinburgh and a PhD in Tropical Animal Health from the University of Edinburgh. She has conducted research in the area of infectious diseases of livestock at several research institutes in the UK and Africa and currently leads a group at Moredun Scientific in development of new diagnostic tests, particularly for the porcine industry.

Tanja Opriessnig is chair of Infectious Disease Pathology at The Roslin Institute, University of Edinburgh. She received her veterinary degree at the University of Veterinary Medicine in Vienna, Austria in 2000. In 2002, she received her advanced degree in Veterinary Science from the same University. From 2002 to 2006, Prof. Opriessnig worked as a postdoctoral researcher at Iowa State University and she completed a Ph.D. in Veterinary Pathology. From 2006 to 2013, she worked as Veterinary Diagnostic Pathologist at the Assistant, Associate or Full Professor rank at the Veterinary Diagnostic Laboratory at Iowa State University. Since 2013 Prof. Opriessnig has a joint appointment with the Roslin Institute, University of Edinburgh and the Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University. Her research focus is on pathogenesis, control, and diagnosis of infectious pathogens in pigs with emphasis on porcine circovirus type 2, porcine reproductive and respiratory syndrome virus, *Erysipelothrix rhusiopathiae*, porcine parvovirus, porcine astrovirus, porcine epidemic diarrhea virus, and swine hepatitis E virus. Since 2002, Dr Opriessnig published >200 peer-reviewed manuscripts in various journals of virology, microbiology and veterinary relevance.