Epi-Insight Limited
17 Main South Road
East Taieri 9024
New Zealand

Dr Eric Neumann is the owner of Epi-Insight Limited, an epidemiology consulting business with offices in New Zealand and the United States. Projects are undertaken on behalf of international clients in the areas of biosecurity, animal health, livestock production, public policy aspects of animal disease management, and risk assessment related to trade in animals and animal products. He has over 25 years of experience helping clients manage complex problems that require an evidence-based approach to problem-solving based on structured collection of data, systematic analysis, and easy-to-understand reporting that can assist clients make business decisions, or support development of public policy.

Dr Neumann has been involved in livestock production, aid and development projects, infectious disease management and research, controlled experimental trials, international project management and collaboration, government-sector biosecurity policy development, and one-health training in locations around the world.

Dr Neumann has been on the faculty of the veterinary school at Massey University in New Zealand since 2005 and remains as an Adjunct Associate Professor of Medicine and Epidemiology at Massey in addition to his full-time consulting business. He is also an Affiliate Associate Professor of Veterinary Epidemiology, Iowa State University, USA.

Prior to his current position, he worked in various roles in the United States livestock industry including the Manager of Veterinary Services for Heartland Pork Enterprises (65,000 sows) and as the Director of Swine Health and Research at the National Pork Board in Des Moines, Iowa. He has an undergraduate degree, Masters, and Doctor of Veterinary Medicine from the University of Illinois and completed a PhD in Veterinary Epidemiology at Massey University in New Zealand.

Veterinary medicine

- Registered to practice in New Zealand and USA
- USDA accredited for federal disease response activities
- Specialty area in pig production and health (Diplomate, American Board of Veterinary Practitioners (Swine Health Management)
- Member of the Epidemiology speciality branch of the Australian and New Zealand College of Veterinary Scientists
- Clinical trials involving animal and human nutrition, vaccine and pharmaceutical efficacy, medical devices, and surgery

Epidemiology

- Data aggregation and reporting, statistical analysis, spatial and mapping projects
- Disease modelling and statistical analysis
- Systematic reviews of scientific and grey literature
- Adjunct Associate Professor at Massey University and Iowa State University
- Member of Australia-New Zealand College of Veterinary Scientists, Epidemiology

Aid and development

- Large, international project management
- Zoonotic diseases, 'One-Health' training and capacity building
- Antimicrobial resistance, disease surveillance, and diagnostic testing
- Monitoring and evaluation

Public policy

- Biosecurity, disease investigation, consultation on OIE and other international animal health recommendations
- Liaison activities on behalf of livestock industries
- Food safety, zoonotic diseases, and border security
- Import health risk assessment

Contact details

Email: e.neumann@epi-insight.com
Phone: +64 27 485 8486
Web: www.epi-insight.com

CURRICULUM VITAE

ERIC JAMES NEUMANN

Owner and Director, Epi-Insight Limited (NZBN 9429041268735), New Zealand
Owner and Member, Epi-Insight USA, LLC (File 0618656-4), Illinois, USA
Adjunct Associate Professor of Medicine and Epidemiology, Massey University, New Zealand

PERSONAL

Epi-Insight Limited
17 Main South Road
Mosgiel 9024
New Zealand

Epi-Insight USA, LLC
13404 Coyne Center Road
Milan, IL 61264
USA

Cell: +64 27 485 8486
Email: e.neumann@epi-insight.com
Skype: ericjneumann
Gender: Male

Date of birth: 22 December 1966
Citizenships: United States of America and New Zealand
Residency: New Zealand
Language: English (fluent reading, writing, speaking)

EDUCATION

American Board of Veterinary Practitioners (2020)
- Diplomate (Swine Health Management)

Doctor of Philosophy (2013)
- Massey University, Institute of Veterinary, Animal, and Biomedical Sciences, EpiCentre, Palmerston North, New Zealand
- Thesis title: 'Biosecurity and exotic disease surveillance in the New Zealand pig industry'

Australian and New Zealand College of Veterinary Scientists (2007)
- Epidemiology Chapter Member

Master of Science (1995)
- University of Illinois College of Veterinary Medicine, Department of Veterinary Clinical Medicine, Urbana, Illinois, USA
- Thesis title: 'An epidemiologic study of Salmonella choleraesuis outbreaks on swine farms: risk factors and infection pattern'

Doctor of Veterinary Medicine (1992)
- University of Illinois College of Veterinary Medicine, Urbana, Illinois, USA

Bachelor of Science (1990)
- University of Illinois College of Agriculture, Urbana, Illinois, USA

Alpha Gamma Rho (Alpha Chapter)
- University of Illinois at Urbana-Champaign

High School (1985)
- Sherrard High School, Sherrard, Illinois, USA

ADDITIONAL TRAINING

AgResearch Limited
- AgResearch Animal Ethics Code of Ethical Conduct Module 1 Training (2014-07-26)

Animal Health Australia
- Exotic Animal Disease Foundation Course, Parts 1 and 2 (2017)

Australian Department of Agriculture, Water and Stewardship - Veterinary Antimicrobial Stewardship Training from the AMR Vet Collective
- Module 1 – AMR update: Where are we now? (2022)
- Module 2 – Core concepts in AMR (2022)
- Module 3 – Antibiotic classes (2022)
- Module 4 – Resistance mechanisms (2022)
- Module 5 –Diagnosing bacterial infections (2022)
- Module 6 – Antibiotic prescribing and the microbiome (2022)
- Module 7 – Using prescribing guidelines (2022)
- Module 8 – Infection prevention and control (2022)
- Module 9 – Implementing an Antimicrobial Stewardship Program: Putting theory into practice (2022)

Biological & Chemical Warfare and Terrorism - Medical Issues and Response (2001)
- U.S. Army Medical Command, National Animal Disease Center, Ames, Iowa, USA

Continuous Quality Improvement (1998)
- 16-week course in Deming Management Philosophy, Center for Continuous Quality Improvement, Ames, Iowa, USA

Foreign Animal Disease Diagnosis School (2002)
- USDA-APHIS Plum Island Animal Disease Laboratory, Orient Point, New York

Fraser High School Adult & Community Education
- Introduction to Beekeeping – 16 hours (2022)

Illinois Agricultural Leadership Program (1994 to 1996)
- 2-year competitive leadership and professional development program, Macomb, Illinois, USA

Iowa State University
- Cleaning and Disinfection for Animal Health - Basic (Program 20-1080518), AASVB-RACE approved training (2023)
- Cleaning and Disinfection for Animal Health - Advanced (Program 20-939609), AASVB-RACE approved training (2023)
- Zoonoses: Protecting People and Animals in Rural Communities (Program 20-829686), AASVB-RACE approved training (2021)
- Emerging and Exotic Diseases of Animals (Program 671-33545), AASVB-RACE approved training (2018)

Massey University, Palmerston North, New Zealand
- Workplace First Aid - 16-hour course on first responder training in the workplace, Order of St John New Zealand, Palmerston North, New Zealand (2012)
- Plagiarism: What it is; How to recognize and detect it; How to avoid it; What might we do about it? Using Turnitin® software as an adjunct to detecting plagiarism (2006)

Private Pilot License (2010)
- Flight Training Manawatu, Feilding, New Zealand
- Instrument Rating (2016)

Queensland Department of Agriculture and Fisheries
- Using Animals in Science (2024)

Talbot Security Group (TSG) Limited
- Hostile Environment Awareness and Travel Safety training (2018)
- 4-day simulation course on self-defence, IEDs, convoy planning, checkpoints, trauma management, firearms awareness, kidnap and hostage training, and communications

United Nations Department of Safety and Security
- Certificate of Achievement in BSAFE (2022)
- Certificate of Achievement in Preparing and Responding to Active Shooter Incidents (2022)
- Certificate of Achievement in Basic Security in the Field (2015)
- Certificate of Achievement in Advanced Security in the Field (2015)

United Nations – Food and Agriculture Organisation
- Certificate of Achievement in United Nations course on Working Together Harmoniously (2023)
- Certificate of Achievement in Protection from Sexual Exploitation and Abuse (PSEA) (2023)
- Certificate of Achievement in Prevention of Harassment, Sexual Harassment and Abuse of Authority (2023)
- Certificate of Achievement in Prevention of Fraud and Other Corrupt Practices (2023)
- Certificate of Achievement in FAO's Whistleblower Protection Policy (2023)
- Certificate of Achievement in Ethics and Integrity at the United Nations (2023)
- Certificate of Achievement in Achieving Gender Equality in FAO's Work (2023)

United States Department of Agriculture – National Animal Health Emergency Response Corps (2011 to Present)
- Surveillance, Epidemiology and Tracing (2018)
- Disposal (2018)
- Health and Safety (2018)
- Mass Depopulation and Euthanasia (2018)
- Preparing for the Psychological Impact of Disaster Response (2018)
- Vaccination for Contagious Diseases (2018)
- Wildlife Management and Vector Control (2018)
- Quarantine and Movement Control (2018)
- Cleaning and Disinfection (2013)
- Personal Protective Equipment in Foreign Animal Disease Responses (2013)
- Biosecurity (2012)
- ICS 700: National Incident Management System (2011)
- ICS 200: Incident Command Structure for Single Resources and Initial Action Incidents (2011)
- Vesicular Diseases (2011)
- Exotic Avian Diseases (2011)

United States Department of Agriculture – National Veterinary Accreditation Program (1992 to Present)
- Module 1: Introduction to the National Veterinary Accreditation Program (2011)
- Module 2: Role of Agencies and Health Certificates (2011)
- Module 3: Overview of Foreign Animal, Program, and Reportable Diseases (2014)
- Module 4: Preventing Disease Introduction and Spread (2014)
- Module 5: Vesicular Diseases (2011)
- Module 6: Exotic Avian Diseases (2011)

- Module 7: Foreign Animal Disease Detection in Category I Animals (2014)
- Module 10: Personal Protective Equipment for Veterinarians (2014)
- Module 11: Sheep and Goats: Disease Awareness and Health Certificates (2014)
- Module 12: Animal Disease Traceability (2014)
- Module 13: Aquatic Animal Health Regulations and Health Certificates (2018)
- Module 14: Evaluation of Aquatic Animals for Detection of Reportable Diseases and Pathogens (2018)
- Module 15: Preventing Disease Introduction and Spread in Aquaculture (2018)
- Module 16: International Poultry Health Certificates (2018)
- Module 17: National Poultry Improvement Plan (NPIP) (2018)
- Module 18: Avian Influenza and Newcastle Disease (2018)
- Module 19 - Animal Health Emergency Response (2021)
- Module 20 - Slaughter Horse Transport (2021)
- Module 21 - Livestock Fitness to Travel (2021)
- Module 22 - Animal Welfare An Introduction (2021)
- Module 23 - Use of Antibiotics in Animals (2021)
- Module 25 - Collecting and Shipping Swine Diagnostic Samples (2021)
- Module 25 - Using Behavior to Assess Animal Welfare (2024)
- Module 29 - Veterinary Feed Directive (2024)
- Module 30 - The Role of Veterinarians in Honey Bee Health (2024)
- Module 32 - Regulating Vaccines and Regulated Biologics (2024)
- Module 35 - Bovine Tuberculosis in Cattle (2024)
- Module 39 - Swine Health for the Accredited Veterinarian (2024)

University of Illinois Office of the Vice-Chancellor for Research

- Animal Care and Use Risk Assessment (2017-2020)
- Basic Training Program for Animal Users (2017-2020)
- Occupational Health and Safety (OHS) Training (2017-2020)

PROFESSIONAL LICENSING

Veterinary practice (United States)

- Iowa (1992 to Present) - License #6542
- Illinois (1992 to Present) – License #090006698
- Indiana (1992 to Present) – License #24005499A

Veterinary practice (New Zealand)

- 2005 to Present – Registration #5462

United States Department of Agriculture

- National Veterinary Accreditation Program (1992 to Present) - #001602
- Iowa (1992 to Present)
- Illinois (1992 to Present)
- Indiana (1992 to Present)
- National Animal Health Emergency Response Corp (2010 to Present) - #2222435

COMPUTER PROFICIENCY

Computer skills	Programs	Proficiency (Basic – Proficient – Advanced)
Word Processing	Microsoft Office	A
	OpenOffice	A
Spreadsheets	Microsoft Office	A
	OpenOffice	A
Database	Microsoft Access	A
HTML	CoffeeCup HTML Web Creator	P
Statistical	RStudio / R Project for Statistical Computing	A
	STATA	P
	QGIS	P
	Vose ModelRisk	P
	InterspreadPlus/HandiSpread disease simulation	A

CURRENT APPOINTMENTS

Owner and Director, Epi-Insight Limited, Palmerston North, New Zealand (http://www.epi-insight.com) and Epi-Insight USA, LLC, Milan, IL, USA (2014 to Present)

- Epi-Insight Limited is a New Zealand based epidemiology consulting business that works for international clients in the areas of biosecurity, animal health, livestock production, public policy aspects of animal disease management, and global trade in animals or animal products. Epi-Insight USA, LLC is a separate company set up to facilitate U.S. based consulting work similar in type to that undertaken by Epi-Insight Limited.
- The company is involved in livestock production, aid and development projects, infectious disease management and research, controlled experimental trials, international project management and collaboration, government-sector biosecurity policy development, and one-health training in locations around the world.
- Email: e.neumann@epi-insight.com

Adjunct Associate Professor of Medicine and Epidemiology, Riddet Institute, Massey University, Palmerston North, New Zealand (2014 to Present)

- The Riddet Institute is the pre-eminent research centre in New Zealand for food, nutrition, and supporting disciplines. Scientists at Riddet carry out fundamental and strategic research related to development of innovations in high-margin food products and processes.
- Clinical support of pig-related research across the College of Sciences is provided, including both animal-specific projects and for projects using pigs as a model for study of human disease and nutrition.
- Email: e.neumann@massey.ac.nz

Affiliate Associate Professor of Veterinary Epidemiology, Veterinary Diagnostic and Production Animal Medicine, Iowa State University (2018 to Present)

- Collaborate on research projects
- Graduate student supervision
- Pork industry engagement through membership on professional and technical committees
- Email: neumann1@iastate.edu

Associate, Prime Consulting International Limited, Levin, New Zealand (http://www.primeconsultants.net/) (2015 to Present)

- Prime Consulting International is a professional consulting group offering specialised services to an international market. Based in New Zealand and Australia, their work incorporates assignments for governments, industry bodies and large corporates, through to small and medium sized private enterprises.
- Prime has core technical competencies in the agri-business and food sectors, along with proven expertise in project and programme management. We operate as a management services contractor and business solutions integrator across a wide range of industries across the globe.
- Email: eric@primeconsultants.net

PROFESSIONAL RECORD (PRIOR TO CURRENT)

2019-2020 Adjunct Research Associate Professor, School of Medicine, University of Otago, New Zealand

- Support student learning and development of research proposals.
- Collaborate with biomedical researchers requiring use of animals or animal tissues.

2013-2014 Associate Professor in Pig Medicine and Epidemiology, Massey University, New Zealand

- Clinical and didactic teaching of herd health, pig production, and pig medicine in the veterinary school. Postgraduate training and research in epidemiology, diagnostic testing, surveillance, and national biosecurity.
- Technical advisor to the levy-funded pig producer organization in New Zealand (NZ Pork) with significant activity in development of public policy related to biosecurity, surveillance, product registration, and import risk assessment.

2009-2014 Project Director, World Bank 'One Health in Asia' programme, Massey University, New Zealand

- Development and delivery of two newly created Masterate programmes funded by the European Commission and World Bank: Master of Veterinary Medicine (Biosecurity) and the Master of Public Health (Biosecurity) degrees. This $12 million NZD project strengthened the national capacity of Beneficiary Countries in South Asia (Afghanistan, Bhutan, Nepal, India, Sri Lanka, Bangladesh, and Pakistan) and East Asia (Mongolia and China) in epidemiology and biosecurity with overall responsibility for a team of 51 NZ and international staff.

2009 to 2014 Veterinary epidemiology consultant (private), Palmerston North, New Zealand
2005 to 2013 Senior Lecturer, Pig Medicine and Epidemiology, Massey University, New Zealand
2002 to 2005 Director, Swine Health Research and Information, National Pork Board, Clive, Iowa, USA
2000 to 2002 Manager, Veterinary Services, Heartland Pork Enterprises, Inc., Alden, Iowa, USA
1996 to 2000 Veterinary Advisor, Heartland Pork Enterprises, Inc., Alden, Iowa, USA
1995 to 1996 Swine Veterinary Consultant (owner), Neumann Swine Service, Champaign, Illinois, USA
1994 to 1995 Swine Research Specialist, University of Illinois College of Veterinary Medicine, Urbana, Illinois, USA
1992 to 1994 Swine Production Resident, University of Illinois College of Veterinary Medicine, Urbana, Illinois, USA
1990 to 1992 Research Assistant, University of Illinois College of Veterinary Medicine, Urbana, Illinois, USA
1989 Swine Farm Labor, Rosentreter Farms, Inc, Gillespie, Illinois, USA
1988 Sales Associate, Hoechst-Roussel Agri-Vet, Somerville, New Jersey, USA
1987 Farm Laborer at commercial cattle feed yard, Ingalls Feed Yard, Ingalls, Kansas, USA

MASSEY UNIVERSITY COMMITTEES

Departmental Committees

Massey University EpiCentre Executive Committee

- Member (2006 to 2014)

Massey University Master of Veterinary Medicine / Master of Public Health in Biosecurity Project Management Committee

- Chairman (2009 to 2013)

Massey University Master of Veterinary Medicine / Master of Public Health in Biosecurity Project Steering Committee

- Member (2009 to 2013)

Massey University Hopkirk Executive Committee

- Member (2009 to 2011)

NATIONAL COMMITTEES

New Zealand Ministry for Primary Industries – New Zealand Pork Industry Board working group on Government Industry Agreements (2010 to 2019).

- Represent the pork industry in conducting a high-level assessment of the anticipated impacts of risk organisms that affect pork sector.

New Zealand Ministry for Primary Industries Anti-Microbial Resistance Coordination Group (2016 to 2017).

- Established to provide a forum by which government agencies, companies, and representative groups with a stake in AMR to share information and coordinate activities.
- MPI uses the Group to consult with other agencies, companies and representative groups on AMR matters including being a sounding board for initiatives and makes recommendations to MPI, on the prioritisation of activities.

United States Department of Agriculture Secure Pork Supply (SPS) Working Group (2012 to 2017).

- This working group of Federal and State Officials, representatives from all phases of the swine industry, swine disease and production and experts and representatives of all other interested commodity groups will develop a Secure Pork Supply plan for use in the event of an FMD outbreak. The group will develop plans and procedures to ensure a Secure Pork Supply for the public while ensuring business continuity for the swine industry and preventing spread of FMD or further losses of export markets.

OSPRI New Zealand Ltd (http://www.ospri.co.nz) Epidemiological Model Working Group for redevelopment of the New Zealand National Pest Management Plan for tuberculosis.

- Independent member of a working group to oversee the design and development of an epidemiological model for management of bovine tuberculosis in New Zealand (2014 to 2015).

Pork Cooperative Research Centre (Pork CRC) for High Integrity Australian Pork based at the University of Adelaide in South Australia (2011 to 2015).

- Committee member for CRC Program 2 (Herd Health Management).
- The CRC operates under a Commonwealth Agreement with the Australian Department of Innovation, Industry, Science and Research and manages an investment of $18 million cash and $94 million in-kind over the eight-year life of the project.
- Objective is to maintain local production of high-quality food for a reasonable price and return on production capital invested, without negatively impacting pig welfare, the environment, or the health of the consumer.

National Research Initiative Coordinated Agricultural Project (CAP2) on Integrated Control and Elimination of Porcine Reproductive and Respiratory Syndrome Virus (PRRSv) in the U.S. (2007 to 2012).

- Member, External Advisory Committee for this United States Department of Agriculture funded project.
- This advisory committee has oversight responsibilities for disbursement of a $4 million, multi-year, multi-institutional project on the eventual elimination of PRRSV from United States swine herds.

New Zealand International Pig Veterinary Society Committee (2006).

- Chairman
- This committee developed a bid to host the 2010 meeting of the IPVS in Christchurch, New Zealand. Neumann presented the bid to the delegates at the 2006 meeting of the organization in Copenhagen, Denmark. The IPVS Congress represents the major biennial meeting of pig veterinarians and scientists from around the world and was attended by over 2700 delegates at the 2006 meeting.

TEACHING

Courses taught

Massey University

195.743	Principles of Disease Control and Management – paper coordinator (2013 to 2014)
227.406	Pig and Poultry Health, Production, and Management – paper coordinator (2006 to 2014)
227.503	Veterinary Clinics, teaching team member (2006 to Present)
118.722	Animal Health Management – paper coordinator (2008 to Present) and teaching team member (2006 to 2007)
118.720	Animal Health Investigation – teaching team member (2006 to Present)
118.504	Pig and Deer Health and Production – teaching team member (2006 to 2007)

227.302	Veterinary Microbiology & Immunology - guest lecturer (2007)
227.502	Veterinary Public Health, Food Safety & Quality Management - teaching team member (2007 to 2008)

University of Illinois

VCM 334	Food Animal Medicine – teaching team member (1992 to 1994)
VCM 344	Introduction to Concepts of Swine Herd Health – teaching assistant (1992 to 1994)
VCM 362	Clinical and Laboratory Practice – teaching assistant (1992 to 1994)
VCM 369	Field Service Clinical Rotation - clinician (1992 to 1994)
VCM 369	Swine Production Clinical Rotation - clinician (1992 to 1994)
VCM 375	Theriogenology – teaching assistant (1992 to 1994)

Graduate student training (in progress)

None

Graduate student training (completed)

Major Advisor	Selwyn Dobbinson, PhD Veterinary Science, Lincoln University (2019)
Major Advisor	Sarah Jenkin, Master of Veterinary Studies, Massey University (2018)
Committee Member	Kirsty Chidgey, PhD Veterinary Science, Massey University (2017)
Major Advisor	Kathryn Bonistalli, Master of Science, Massey University (2013)
Committee Member	Kirsty Chidgey, Master of Science, Massey University (2011)
Major Advisor	Arun Kurian, Master of Veterinary Studies, Massey University (2011)
Supervisor	Chris Morley, Master of Veterinary Public Health Management, Sydney University (2008)
Committee Member	Leo Loth, Master of Veterinary Science, Massey University (2007)
Major Advisor	Patricia Jaros, Master of Veterinary Science (2007)

Other professional mentoring

Qualification	Candidate	Outcome
American Board of Veterinary Practitioners (Swine Health Management)	Hongyao Lin, BVSc, MS	Scheduled (2024)
Veterinary registration in New Zealand	Arun Kurian (BVSc, Kerala Agricultural University, 2002)	Written and clinical competency exams passed (2022-2023), achieved NZVC registration 2023
Membership, Australian and New Zealand College of Veterinary Scientists (Epidemiology)	Arun Kurian (BVSc, Kerala Agricultural University, 2002)	Successful (2021)
Membership, Australian and New Zealand College of Veterinary Scientists (Epidemiology)	Ryan Luckman (BVSc, Massey University, 2008)	Successful (2021)
American Board of Veterinary Practitioners (Swine Health Management)	Matheus Costa, DVM, PhD	Successful (2021)

COMMUNITY ACTIVITIES

Fish & Game New Zealand Councillor (public election), Wellington Region (2010 to 2015)

- Fish & Game manages, maintains, and enhances sports fish and game birds, and their habitats, in the best long-term interests of present and future generations of anglers and hunters; the organisation is funded through the sale of fishing and hunting licences.
- Fish & Game New Zealand is the collective name of 12 regional Councils which administer sports fishing and gamebird resources in New Zealand.

AWARDS AND RECOGNITION

Wiley Top Cited Article 2021-2022 (2023). Was the first author of the most-cited article for the Australian Veterinary Journal in 2022 (Neumann, EJ., Hall, WF., Dahl, J., Hamilton, D. and Kurian, A. Is transportation a risk factor for African swine fever transmission in Australia: a review. Aust Vet J. 2021; 99:459-468, https://doi.org/10.1111/avj.13106). Sponsored by Australian Veterinary Journal, Australia, (2023-02-22).

Chief Guest and Conference Summary for the 2nd International Conference on Zoonoses (2016). Sponsored by Bahauddin Zahariya University, Multan, Pakistan, (2016-10-21).

Member of the Scientific Committee (2014). Sponsored by 23rd International Pig Veterinary Society Congress, Cancun, Mexico, (2014-06-08).

Roy Schultz Lectureship (How Much Testing is Really Needed to Formulate a Diagnosis?) (2014). Sponsored by Iowa State University, Ames, Iowa, USA, (2014-11-14).

Massey University Research Team Medal (Veterinary Epidemiology and Public Health) (2013). Sponsored by Massey University, Palmerston North, New Zealand, (2013-11-01).

OIE Collaborating Centre for Veterinary Epidemiology and Public Health (2013). Sponsored by World Organization for Animal Health (OIE), Paris, France, (2013-06-14).

Session Chairman: Swine Production, Nutrition and Feed Section (2012). Sponsored by 22nd International Pig Veterinary Society Congress, Jeju, Korea, (2012-06-12).

AASV Foundation Hogg Scholarship (2010). The $10,000 USD Hogg Scholarship is awarded to a swine veterinarian to recognize their commitment to post-graduate education and research in an academic field of study related to swine health and production. Sponsored by American Association of Swine Veterinarians, Perry, Iowa, USA, (2010-03-10).

PROFESSIONAL MEMBERSHIPS

American Board of Veterinary Practitioners (2020)
- Diplomate (Swine Health Management)

One Health Aotearoa (2016 to Present)
- Member

American Association of Swine Veterinarians
- Committee on Transboundary and Emerging Diseases (2016 to Present)
- Swine Health Committee (2008 to 2016; replaced by Committee on Transboundary and Emerging Diseases)
- Porcine Reproductive and Respiratory Syndrome virus Subcommittee (2004 to 2005)
- Foreign Animal Disease Committee (2003 to 2016; replaced by Committee on Transboundary and Emerging Diseases)
- Nutrition Committee (2003 to 2007)
- Member (1992 to Present)

Australian and New Zealand College of Veterinary Scientists
- Member, Epidemiology Chapter (2007 to Present)

American Association of Veterinary Laboratory Diagnosticians
- Member (1995 to 1996, 2006)

International Embryo Transfer Society
- Member (2006 to 2007)

Iowa Veterinary Medicine Association (2003 to 2005)
- Member, Swine Health Committee (2003 to 2005)

American Veterinary Medicine Association
- Member (2003 to 2005)

United States Animal Health Association
- Co-Chairman Biologics and Biotechnology Committee (2004 to 2005)
- Member, Transmissible Diseases of Swine Committee (2004 to 2005)

University of Minnesota Swine Disease Eradication Center
- Advisory Board (2002 to 2005)

University of Illinois Veterinary Alumni Association
- President (2001 to 2002)
- Lifetime Member

PROFESSIONAL AND SPECIALTY ACTIVITIES

New Zealand Pork Industry Board ('NZ Pork')
- Technical advisor for pig health and biosecurity including farmer training, government liaison, industry consultation on national and internationally policies and regulations, data analysis and reporting, and emerging issues. (2005 to Present)

Journal of Swine Health and Production Editorial Board
- The Journal of Swine Health and Production (ISSN 1537-209X; formerly 1066-4963) is a refereed journal published bimonthly by the American Association of Swine Veterinarians. It is the only peer-reviewed, swine-focused journal currently being published in North America. Journal of Swine Health and Production is indexed in ISI® Focus On: Veterinary Science & Medicine® and in CAB Abstracts and has an Impact Factor of 0.528. I am one of 12 members on this international Board (2010 to 2015)

New Zealand Ministry for Primary Industries (formerly Ministry of Agriculture and Forestry)
- Mycoplasma bovis incursion epidemiology and disease modelling team, including modelling of disease spread and surveillance effectiveness using Interspread Plus simulation software, and analysis and reporting of movements data housed in National Animal Identification and Traceability (NAIT) database. (2017 to 2019)
- PRRSV Expert Working Group (2010)
- Review a quantitative risk assessment examining the likelihood of introducing porcine reproductive and respiratory syndrome (PRRSV) in imported pig meat.

Pandemic Influenza Response Planning group

- Pig industry technical representative (2009)

United States Department of Agriculture, Food Animal Production Medicine Consortium

- Workshop recorder (1992)
- Task force established for implementing food animal pre-harvest food safety internationally.

PUBLICATIONS: JOURNAL ARTICLES

Neumann, E. J., & Hall, W. F. (2025). Systematic review of transmission factors, management interventions, and elimination techniques related to porcine epidemic diarrhea. J Am Vet Med Assoc, X(X), 1-10. https://doi.org/10.2460/javma.25.09.0626.

Hoogeveen, A. M., Moughan, P. J., Stroebinger, N., Neumann, E. J., McNabb, W. C., & Montoya, C. A. (2024). Validation of a Combined In Vivo/In Vitro Ileal Fermentation Assay in the Growing Pig to be Used as a Model for Adult Humans. J Nutr, 154(4), 1461-1471. https://doi.org/10.1016/j.tjnut.2024.02.027.

Kurian, A., Hall, W. F., & Neumann, E. J. (2021). African swine fever: a New Zealand perspective on epidemiological risk factors for its occurrence. N Z Vet J, 69(3), 135-146. https://doi.org/10.1080/00480169.2021.1875934.

Neumann, E. J., Hall, W. F., Dahl, J., Hamilton, D., & Kurian, A. (2021). Is transportation a risk factor for African swine fever transmission in Australia: a review. Aust Vet J, 99(11), 459-468. https://doi.org/10.1111/avj.13106.

Neumann, E. (2020). In the field: African swine fever - what does it mean for New Zealand? VetScript, 33(3), 40-43.

Oluwayelu, D., Afrough, B., Adebiyi, A., Varghese, A., Eun-Sil, P., Fukushi, S., Yoshikawa, T., Saijo, M., Neumann, E., Morikawa, S., Hewson, R., & Tomori, O. (2020). Prevalence of Antibodies to Crimean-Congo Hemorrhagic Fever Virus in Ruminants, Nigeria, 2015. Emerg Infect Dis, 26(4), 744-747. https://doi.org/10.3201/eid2604.190354.

Lawrence, K., Neumann, E., & Brangenberg, N. (2018). Diseases of backyard pigs in New Zealand. Surveillance, 45(2), 5-14. http://www.sciquest.org.nz/node/143253.

Hall, W., & Neumann, E. (2015). Fresh Pork and Porcine Reproductive and Respiratory Syndrome Virus: Factors Related to the Risk of Disease Transmission. Transbound Emerg Dis, 62(4), 350-366. https://doi.org/10.1111/tbed.12163.

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Neumann, E. J., Pearson, A. B., Sanson, R. I., Nicoll, K. J., & Clement, F. I. (2013). The frequency and distance of movements of pigs and semen between commercial and non-commercial piggeries in New Zealand. N Z Vet J, 61(2), 77-86. https://doi.org/10.1080/00480169.2012.715377.

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CONSULTING

Clinical trial support using pigs as a model for studies of human nutrition (Current). Ongoing support of clinical trials for researchers at the Riddet Institute, Massey University, and AgResearch (a New Zealand government funded Crown Research Institute) focussed on use of pigs as a model for studying human nutrition. Have responsibility for all aspects of pig health and welfare, abdominal and minor surgery, catheterization, gastric gavage, pre- and post-mortem sample collection, and animal ethics committee review. Sponsored by Massey University Riddet Institute in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2014-06-06 through 2099-12-31.

Xenotransplantation of pig tissue into humans (Current). Provide day-to-day operational oversight of a colony of high-health, specialty genetic pigs maintained for use as xenotransplant tissue donors. Responsible for SOP creation and management, animal ethics committee liaison, daily care, reproduction, biological sampling, and health monitoring. Sponsored by NZeno Limited in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2019-03-27 through 2099-12-31.

Establishing the colonisation pattern of forensically-important insects in southern New Zealand using Sus scrofa as a human proxy (Current). Studies to establish what insects are likely to colonise human bodies post-mortem in Otago region of New Zealand and the temporal occurrence of their appearance and disappearance based on use of pig cadavers. This information provides the key data needed to refine post-mortem interval estimation in human forensic cases in Otago. . Sponsored by Department of Anatomy in the School of Biomedical Sciences at University of Otago in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2024-02-15 through 2099-12-31.

Technical consultant for the New Zealand Pork Industry Board (Current). Provide technical input and expertise around issues relevant to the sustainability of the New Zealand pig industry. Activities include producer education, liaison with policymakers, research consultation, technical writing, biosecurity, monitoring of import-export risk goods, representation at stakeholder meetings, support of Board of Directors, and farm visits. Sponsored by New Zealand Pork Industry Board in New Zealand and

contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2005-10-01 through 2099-12-31.

Modernizing Pathogen Prioritization for U.S. Swine Health: A Risk-Based Framework for 2025 and Beyond (Current). This work modernizes the Swine Health Information Center's (SHIC) pathogen prioritization matrices. The current versions are considered outdated because they rely on subjective and non-transparent scoring methods. The project will use an internationally recognized Multi-Criteria Decision Analysis (MCDA) method called PAPRIKA to create a transparent, risk-based framework. The final deliverable is a defensible, prioritized list of swine disease pathogens for use in guiding future research and preparedness activities. Sponsored by Swine Health Information Center in United States and contracted to Epi-Insight USA LLC in United States. Work completed in New Zealand, and conducted from 2025-10-01 through 2026-06-30 under Project Number 25-109.

Pandemic Fund proposal development, support, and implementation for Tajikistan (2025). Lead the development of a detailed joint result framework and a 3 to 4-year costed annual activity implementation plan for the Pandemic Fund grant for Sri Lanka in consultation with development partners. Support ADB in facilitating technical consultations with the Government of Tajikistan on the scope, rationale, detailed activities, and result framework of the ensuing health security system strengthening project where the Pandemic Fund proposal for Tajikistan will be situated as a portion of overall financing. Proposal was successfully funded. Sponsored by Asian Development Bank in Manila and contracted to Epi-Insight Limited in New Zealand. Work completed in Tajikistan, Sri Lanka, and conducted from 2025-01-17 through 2025-12-31 under Project Number TA-9950 REG:S204823.

Pandemic Fund - Regional Office for Asia and the Pacific (RAP) (2025). Appointed jointly by FAO as the Pandemic Fund Proposal Development Specialist (Animal Health) to assist FAO-RAP in preparing three $15-20 million USD applications to the Pandemic Fund's third call for proposals. Was responsible for budget development and co-authored the proposal text with Mr Eraly, along with significant stakeholder engagement meetings with government and development partners in Viet Nam, Papua New Guinea, and Tonga; PNG proposal was successful. Sponsored by Food and Agriculture Organisation of the United Nations in Bangkok and contracted to Epi-Insight Limited in New Zealand. Work completed in Viet Nam, Papua New Guinea, and Tonga, and conducted from 2025-05-13 through 2025-06-30 under Project Number COF.REG.

Five-year review of the Northern Territory cattle tick management programme (2024). There is currently no nationally co-ordinated approach to the management of cattle tick in northern Australia. The purpose of this project is to provide advice and recommendations to the government on the current Northern Territory Cattle Tick Program in terms of structure, function, delivery format, cost, revenue and to recommend proposed solutions with a particular focus on Parkhurst strain acaricide resistant ticks. Sponsored by Northern Territory Department of Industry, Tourism, and Trade (Agriculture, Fisheries and Biosecurity) in Australia and contracted to Prime Consultants International Limited in New Zealand. Work completed in New Zealand and Australia, and conducted from 2024-01-01 through 2024-08-31.

Pandemic Fund - Viet Nam (2024). Appointed jointly by FAO and WHO as the Animal Health Pandemic Preparedness and Response specialist to assist Viet Nam in preparing a $25 million USD application to the Pandemic Fund's second call for proposals. Was responsible for budget development and co-authored the proposal text with Mr Eraly, along with significant stakeholder engagement meetings with government and development partners. Sponsored by Food and Agriculture Organisation of the United Nations and the World Health Organisation in Viet Nam and contracted to Epi-Insight Limited in New Zealand. Work completed in Viet Nam, and conducted from 2024-02-26 through 2024-05-17 under Project Number 765798 FAVIE.

Support to South Asia Region in development and implementation of Pandemic Fund proposals (2024). Appointed by ADB to lead preparation of Sri Lanka's $19 million USD application to the Pandemic Fund's second call for proposals. Was responsible for budget development and co-authored the proposal text with Mr Eraly, along with significant stakeholder engagement meetings with government and development partners. Sponsored by Asian Development Bank in Manila and contracted to Epi-Insight Limited in New Zealand. Work completed in Sri Lanka, Indonesia, Bangladesh, and conducted from 2024-03-04 through 2025-02-28 under Project Number TA-9950 REG:S195661.

Manuscript and Copy-Editor (English) (2024). Assist with technical writing of FAO publications and related work. Sponsored by Food and Agriculture Organisation of the United Nations in Viet Nam and contracted to Epi-Insight Limited in New Zealand. Work completed in Viet Nam, and conducted from 2024-08-15 through 2024-09-30 under Project Number 8034440 FAVIE.

Development of a PEDv focused literature review that focuses on transmission, biosecurity interventions, and elimination techniques (2024). This literature review examined Porcine Epidemic Diarrhea Virus (PEDv) by focusing on three main areas: Transmission (factors that influence PEDv spread within and between pig farms), biosecurity (farm and industry biosecurity practices that have been shown to reduce virus transmission), and eradication tools (methods that could contribute to PEDv elimination from farms or the broader US industry). The outcomes of this work supported informed decisions on the feasibility of PEDv eradication in the US. Sponsored by National Pork Board in United States and contracted to Epi-Insight USA LLC in United States. Work completed in New Zealand, and conducted from 2024-12-01 through 2025-03-01 under Project Number PO-002754.

Improve animal disease prevention and detection in India through improved One Health surveillance (2023). Assist in planning and implementation of the Government of India's Livestock Health and Disease Control Program, including funding from the GoI, ADB, and the Pandemic Fund. Objectives include assessing current challenges related to animal disease and zoonotic disease response and detection capacity, animal disease laboratory capacity, interoperability of existing data systems with environmental, wildlife, and human health sectors, capacity and competency of veterinarians, and the government's institutional capacity to operationalize One Health. Sponsored by Asian Development Bank in Manila and contracted to Epi-Insight Limited in New Zealand. Work completed in India, and conducted from 2023-12-15 through 2023-05-19 under Project Number TA-6674 REG:S189911.

Pandemic Fund - Viet Nam (2023). Appointed jointly by FAO and WHO as the Animal Health Pandemic Preparedness and Response specialist to assist Viet Nam in preparing a $29 million USD application for the inaugural call for proposals by the international Pandemic Fund. Was responsible for budget development and co-authored the proposal text with Mr Eraly, along with significant stakeholder engagement meetings with government and development partners. Sponsored by Food and Agriculture Organisation of the United Nations and the World Health Organisation in Viet Nam and contracted to Epi-Insight Limited in New Zealand. Work completed in Viet Nam, and conducted from 2023-05-01 through 2023-05-19 under Project Number 695043 FAVIE.

One Health in Central Asia Initiative: Protecting Food Systems and Preventing Future Pandemics through preparation of a Regional One Health Framework for Action (Surveillance Team) (2023). Assessed key capacity gaps related to One Health surveillance at the national level in five countries of Central Asia through background research, obtaining relevant information from the government agencies, and face-to-face meetings. Led a team of five domain experts in developing recommendations for improving capacity nationally, and how implementation of these recommendations could contribute to a regional One Health platform through advanced surveillance results sharing, cross-sectoral training, and co-management and procurement of important infrastructure for innovative surveillance. Work included two missions into the region for a total of three weeks. Sponsored by World Bank in United States and contracted to Prime Consulting International in New Zealand. Work completed in New Zealand, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan, and conducted from 2022-12-15 through 2024-01-26 under Project Number P179272.

Clinical, surgical, and anaesthesia support for orthopaedic (spinal) surgery in pigs (2023). Technical expert supporting clinical, surgical, and anaesthesia aspects of clinical trials using pigs as a model for studies of human orthopaedic (spinal) surgery. Sponsor is developing novel surgical equipment for use in human that will improve tissue viability and surgical wound healing, and reduce incidence of surgical site infections. Provide advice and hands-on support to equipment engineers, human surgeons, veterinarians, and animal technicians. Sponsored by Fisher and Paykel Healthcare in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2023-01-01 through 2023-12-31.

Manuscript and Copy-Editor (English) (2023). Assist with technical writing of FAO publications and related work. Sponsored by Food and Agriculture Organisation of the United Nations in Viet Nam and contracted to Epi-Insight Limited in New Zealand. Work completed in Viet Nam, and conducted from 2023-08-27 through 2024-03-31 under Project Number 720646 FAVIE.

A study of the efficacy, safety, and ergonomics of a medical device for use in improving visualization during human laparoscopic surgery (2022). To simulate human laparoscopic surgery use-cases in a porcine model and describe the user experience associated with a novel medical device for improving visualization during human laparoscopic surgery. Particular interest in ability of device to improve laparoscopic visualization when purposefully challenged by smoke and high humidity/fogging. Laparoscopic surgery with mechanically assisted ventilation under gas anaesthesia in 10 conventional 25-50 kg pigs. Work involved recruitment and coordination of experienced human laparoscopic surgeons, board-certified veterinary anaesthesiologist, and development of an approved animal ethics application. Sponsored by Fisher and Paykel Healthcare in New Zealand and contracted to Invetus New Zealand Limited in New Zealand. Work completed in New Zealand, and conducted from 2021-02-23 through 2022-05-31 under Project Number FPH-P-20337-N.

Technical, field, and laboratory support for xenotransplantation of pig tissue into humans (2022). Develop protocol, sources, logistics, and laboratory processing of porcine-origin tissue reagents for support of embryo transfer and cloning in pigs. Sponsored by Egenesis in United States of America and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2022-03-16 through 2022-12-31.

Fiji National University veterinary graduate special internship program (2022). The special internship programme helped to ensure that Fiji National University veterinary graduates had adequate knowledge and skills to provide veterinary services for livestock (specifically terrestrial species: cattle, sheep, goats, pigs, poultry) and to desex dogs and cats in Fiji. Specialised support was provided in pig medicine and production, and epidemiology, in the context of both commercial and non-commercial farm settings. Those completing the programme were equipped to meet the WOAH Day 1 specific competencies in clinical reasoning, diagnosis and treatment planning, veterinary communication and self directed learning. Training was provided online via a Moodle platform with emphasis on small group work in a problem-based framework. Sponsored by Food and Agriculture Organisation of the United Nations (FAO) and World Organisation for Animal Health (WOAH) in Italy and contracted to University of Sydney in Australia. Work completed in New Zealand, and conducted from 2022-06-16 through 2022-09-30.

Strengthening the Institutional Mechanism of the South Asia Subregional Economic Cooperation Program (2022). Promote cross-sectoral and cross-border cooperation on regional health security through the One Health approach to minimize the impact of emerging zoonotic diseases, antimicrobial resistance, and food safety to trade and economy of SASEC sub-region. Work involved drafting of One Health Action Plan with timeframe and responsible agencies for endorsement at the 2023 SASEC nodal official meeting, and implementation of three regional knowledge sharing events on Enhancing Health Security through Regional Cooperation. Sponsored by Asian Development Bank in Manila and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, Bangladesh, Sri Lanka, India, Nepal, and Maldives, and conducted from 2022-10-19 through 2025-12-10 under Project Number TA-6674 REG:S182155.

Formulation of One Health Partnership 5-year Action Plan and Budget (2021). The overall objective of this assignment was to assist in improving multi-sectoral and multidisciplinary collaboration in Viet Nam, using the One Health approach and to support the One Health Partnership (OHP) Secretariat led by the Ministry of Agriculture and Rural Development and the Ministry of Health. Through this project, a 5-year OHP Strategic Plan and corresponding activity-based Budget was developed. Central to the work in this project was extensive stakeholder consultation amongst animal and public health agencies at the national and provincial levels, environment and wildlife-centred organisations, and key donor organisations working in any of these sectors. The Plan and Budget included expected, moderate, and high-risk scenarios. Sponsored by European Union in Brussels, Belgium and contracted to Transformation and Change Management Consulting Company Limited in Hanoi, Vietnam. Work

completed in New Zealand and Viet Nam, and conducted from 2021-05-17 through 2021-11-30 under Project Number 21-OHP-VNAM-001.

Regional Project Development Support for the South Asia Subregional Economic Cooperation Operational Plan, 2016-2025 (2021). Assessed key capacity gaps (background research, obtaining relevant information from the government agencies, creation of country profiles, and assessment of OH integration into government operations) and identified constraints and unmet resources needs for effective implementation of One Health in SASEC member countries (Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka) at both country and regional levels. Opportunities for addressing zoonotic disease and antimicrobial resistance issues in different sectors with One Health were summarized in a Scoping Study and Action Plan for use by Asian Development Bank. Sponsored by Asian Development Bank in Manila and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, Bangladesh, Sri Lanka, India, Nepal, and Maldives, and conducted from 2021-05-17 through 2021-10-31 under Project Number TA-9231 REG:S167317.

International Finance Corporation's Manual and Audit Procedures on Biosecurity, Animal Welfare, and Antibiotics (BAWA) for fully housed pig production (2020). Reviewed and revised the International Finance Corporation's Manual and Audit Procedures on biosecurity, animal welfare, and antibiotics (BAWA) for fully housed pig production. Sponsored by The World Bank Group (International Finance Corporation) in Vietnam and contracted to Australian Agricultural Nutrition Consulting Pty Limited in Australia. Work completed in New Zealand, and conducted from 2020-05-29 through 2020-09-04.

Preliminary determination of the bioavailability of solubilised niclosamide in pigs when administered intraperitoneally, buccally, and per rectum as a treatment for COVID-19 infection (2020). The principal objective of the work was to determine whether a solubilised formulation of niclosamide, when administered to pigs through various routes of administration and several dosages, could be detected in the blood. Contracted work involved management of the test site, all pig dosing, catheterization, sampling, and health assessments. Sponsored by Estendart Holdings Limited in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2020-10-09 through 2021-12-23.

African swine fever (ASF) policy review in Viet Nam (2020). Reviewed all legal documents and national programs relevant to ASF control in Viet Nam in order to understand the regulatory framework to respond to ASF and other zoonotic diseases, conduct stakeholder mapping to evaluate the institutional capacity in implementing ASF and other zoonotic diseases control measures, provide case studies in managing ASF crisis by countries relevant to Viet Nam, then to provide a set of recommendations which could be adopted by the government in the short and medium-to-long terms to establish and operate ASF free supply chains Sponsored by The World Bank Group (International Finance Corporation) in Vietnam and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand (COVID restricted movements), and conducted from 2020-10-22 through 2021-02-22 under Project Number IFC-602211-CAXX-TF0A6720.

Development of a tool to estimate the micro- and macro-economic impacts of biological incursions into the New Zealand dairy and beef industries (2020). Develop a flexible, generic, cost-benefit analysis framework that can support decision-makers in determining whether a formal response should be mounted against an incursion of an exotic disease agent into the New Zealand beef or dairy industries. The tool is based upon structured epidemiological outputs from a disease simulation model, cost of disease estimates based on New Zealand farm budgets for various cattle farming sectors, non-tangible costings (animal and human welfare costs, environmental impacts, wildlife factors), and macroeconomic supply and demand factors. Sponsored by New Zealand Ministry for Primary Industries in New Zealand and contracted to Prime Consultants International Limited in New Zealand. Work completed in New Zealand, and conducted from 2020-09-01 through 2021-05-31.

Technical consultant to Deer Industry New Zealand (2020). Engaged to provide ongoing technical support to the New Zealand deer farming industry with particular emphasis on biosecurity policy, advice on formal commenting to international organisations involved in trade in animal products, the New Zealand Government-Industry Agreement (GIA), and assessment of risk associated with importation of chronic wasting disease. Sponsored by Deer Industry New Zealand (DINZ) in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2020-09-15 through 2023-12-31.

Building strategic partnerships to increase African swine fever preparedness of the US and Viet Nam pig industries (2019). Project designed to build strategic partnerships between the US and Viet Nam pig industries. Specifically, projects will be undertaken to improve diagnostic capabilities of both countries to diagnose African swine fever (ASF), determine effectiveness of various ASF control strategies, investigate the epidemiology and causation of recent ASF outbreaks in Vietnam, and strengthen institutional capacity in Viet Nam to research and diagnose ASF. Sponsored by United States Department of Agriculture in United States and contracted to Swine Health and Information Center in United States. Work completed in Viet Nam, and conducted from 2019-09-01 through 2022-09-01.

Development of an approach to speed up autogenous vaccine approval by the APVMA (2019). Formal consultation with the Australian Pesticides and Veterinary Medicines Authority and autogenous vaccine manufacturers was completed in response to pig industry concerns about excessive constraints around approval of autogenous vaccines. Modifications to the official guidance documents were negotiated to achieve improved quality of autogenous vaccine registration applications and therefore more timely approvals. Sponsored by Australian Pork Limited in Australia and contracted to Epi-Insight USA LLC in United States. Work completed in Australia, and conducted from 2019-10-31 through 2020-03-02 under Project Number 2019-0010.

Creation and validation of best practice truck biosecurity and disinfection guidelines with practical application at export abattoirs (2019). A structured review of published literature on the risk of transport associated incursions of African swine fever was conducted to assist in development of best practices for truck washing and disinfection. Abattoirs, livestock haulers, and all pig farmers in the country were surveyed to determine existing truck wash capabilities and capacity in the industry. Training materials were developed to implement the best practices that were identified. Sponsored by Australian Pork Limited, in Australia and contracted to DRH Consulting Trust in Australia. Work completed in New Zealand (COVID restricted movements), and conducted from 2019-10-31 through 2022-10-31 under Project Number 2020-0005.

Support for the response to the 2017 incursion of Mycoplasma bovis in the New Zealand dairy industry (2018). Developed and presented a simulation model of the Mycoplasma bovis spread in the New Zealand beef and dairy industries using Interspread Plus. Model output was the key data to support Ministerial decision-making around the extent of a national response to the incursion. Modelling work was based on a review of the related scientific literature and included multiple 5-year simulations to estimate the effects of four different surveillance and control plans. Sponsored by New Zealand Ministry for Primary Industries in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2018-03-07 through 2019-02-10.

Risk of pig disease introduction to Fiji through importation of pork (2018). A report was commissioned by Fiji Pig Producers Association (FPPA), an Association formed under the Fiji Crop and Livestock Council with the objective of describing the potential risks of disease introduction into the Fijian pig industry through the direct importation of pork from countries in the European Union. The FPPA expected the volume of imported pork arriving from New Zealand (either domestic-raised or re-exported from countries exporting to New Zealand) or Australia to increase in the future. In addition, importation of pork directly from countries of the European Union was being considered. This situation created the potential for increased risk of disease introduction into Fiji through the importation of untreated pork. Sponsored by Fiji Pig Producers Association in Fiji and contracted to Leyland's Limited in Fiji. Work completed in New Zealand, and conducted from 2018-04-07 through 2018-07-11.

Global surveillance for antimicrobial resistance (2018). The UK Department of Health launched the Fleming Fund, a GBP 265 million One Health programme to support low- and middle-income countries (LMICs) in tackling antimicrobial resistance (AMR). The Fund contributed to the WHO Global Action Plan on Anti-Microbial Resistance. The aim of the Fleming Fund was to improve laboratory capacity and diagnosis as well as data and surveillance of AMR in LMICs through a One Health approach: Building capacity to collect drug resistance data, enabling the sharing of drug resistance data locally, regionally, and internationally, collating data on AMR, and encouraging the application of these data to promote the rational use of antimicrobials. Sponsored by UK Department of Health in England and contracted to Mott MacDonald in England. Work completed in Pakistan, and conducted from 2018-03-21 through 2018-08-04.

Risk and response planning for an exotic swine disease incursion through the importation of fresh pork (2017). A critical review of the scientific literature related to swine pathogens that may be present in pork was conducted. A prioritised list of these pathogens was presented as a matrix based on the risk of their introduction through pork and the likely consequences of an incursion. The PigPass official database of Australia's pig movements was undertaken and used in conjunction with information from the literature review to complete an Interspread Plus simulation modelling of porcine reproductive and respiratory syndrome (PRRS) virus spread in the country. Sponsored by Australian Pork Limited in Australia and contracted to Epi-Insight USA LLC in United States. Work completed in New Zealand, and conducted from 2017-09-11 through 2018-06-08 under Project Number 2017-2213.

Brucellosis and bovine tuberculosis in peri-urban dairies in India (2017). The PERIMILK study was conducted to determine the contribution of peri-urban dairies in India to the occurrence of zoonotic diseases such as brucellosis and bovine tuberculosis. The project aimed to measure and analyse the effectiveness of farm-level interventions designed to improve the standard of animal husbandry and reduce inappropriate use of antibiotic on these farms. Data was collected to determine the disease burden and cost of production in the sector. Sponsored by Canadian International Development Research Centre and the Public Health Foundation of India in India and contracted to Massey University in New Zealand. Work completed in India, and conducted from 2017-03-01 through 2017-04-30.

Evaluation of target animal safety of a novel compound for prevention of diarrhoea in baby pigs under laboratory conditions (2016). A controlled target animal safety study was conducted in 80 healthy piglets two to 12 days of age under Good Laboratory Practice guidelines. Project involved animal assessment, blood collection, oral gavage, euthanasia and necropsy, and collection of tissues at study termination. Study was conducted in support of product registration with a national animal drug regulatory agency. Sponsored by Anatara Lifesciences Ltd in Australia and contracted to Estendart Limited in New Zealand. Work completed in New Zealand, and conducted from 2016-02-26 through 2016-09-14 under Project Number ANR 15-004 (TAS - AUS).

Target animal safety study of an injectable vitamin animal remedy in sheep (2016). A European manufacturer of animal remedies sponsored a study conducted under Good Laboratory Practices to investigate the safety of a injectable vitamin supplement in sheep. The study was conducted in New Zealand to support international market registration. Sponsored by Virbac New Zealand in New Zealand and contracted to E. Limited in New Zealand. Work completed in New Zealand, and conducted from 2016-09-01 through 2017-02-15 under Project Number EL16573.

Cross-over Diseases: Animal to Human Surveillance (2016). Novel software tools were developed that could assist in structuring risk-based surveillance for Ebola virus in animals and people. Through funding provided by World Bank, the Ministry of Health in Liberia sponsored development of a risk mapping system for spatial evaluation of the risk of potential initiation of human infection of Ebola Virus Disease from animal sources. A best fit surveillance approach was used to model the impact of each possible surveillance component (measured by timeliness in detection and cost). A suitable information system for processing surveillance data and managing disease outbreaks (such as Ebola) was added to the software and national epidemiologists were trained on how to use the risk map to evaluate alternative surveillance systems for early detection of outbreaks affecting people and/or animals, using epidemiological effectiveness and cost-effectiveness criteria. Sponsored by The World Bank in United States and contracted to Liberia Ministry of Health in Liberia. Work completed in Liberia, and conducted from 2016-01-01 through 2017-05-30 under Project Number MOH/EERP/CQS/001.

Results Oriented Monitoring (ROM) of Improvement of Key Services to Livestock aid project in Fiji (2016). A visit was made to Fiji on behalf of Landell-Mills Ltd to conduct a Results Oriented Monitoring (ROM) mission for a European Union funded aid project. The project was entitled 'Improvement of Key Services to Livestock' and target support activities for farmers being displaced due to macroeconomic changes to the sugar cane growing industry. The mission was comprised of site visits and

interviews with project stakeholders including farmers (final beneficiaries) over a 12-day period. The project was formally assessed in terms of its relevance to targeted beneficiaries, efficiency of implementation, effectiveness in meeting expected outcomes, and sustainability. Sponsored by EuropeAid in Belgium and contracted to Landell-Mills Limited in Belgium. Work completed in Fiji, and conducted from 2016-02-12 through 2016-02-29.

Training on analysis of questionnaire data using STATA and EpiInfo (2016). Conducted training on analysis of questionnaire data collected by Massey University One Health Fellows based in Afghanistan. Data was collected as part of a Knowledge, Attitudes, and Practise study of health care providers in Kabul City and surrounding suburbs. Data storage and manipulation was done in Access; analysis was done in STATA and EpiInfo. One Health Fellowships were established as part of a European Union funded project entitled 'One Health in Action'. Sponsored by EuropeAid in Belgium and contracted to Massey University in New Zealand. Work completed in Afghanistan, and conducted from 2016-10-15 through 2016-10-18.

Outbreak of American foulbrood (AFB) in bees in Afghanistan (2015). To assist in the response to an outbreak of American foulbrood in an agricultural support project in Yakawlang, Afghanistan, Epi-Insight Limited used a web-enabled spatial database to store and report on data related to both honey production and disease status. AFB is an important disease of bees around the world and after becoming established in a hive, causes high mortality in bee larvae which in turns results in poor honey production and ultimately death of the colony. In completing the project, existing paper and spreadsheet-based data was migrated into a relational database, a web-based front-end was built to allow permission-based access to various functions of the database, and customized reports and forecasts were created. Sponsored by New Zealand Ministry of Foreign Affairs and Trade in New Zealand and contracted to Prime Consultants International Limited in New Zealand. Work completed in Afghanistan, and conducted from 2015-01-01 through 2015-06-30.

Zoonotic disease surveillance alternatives using portfolio theory (2015). Emergent zoonotic diseases can create social and economic disruptions in affected countries. Timely detection is critical in minimizing these disruptions and objective approaches are needed for predicting the effectiveness of surveillance strategies. Epi-Insight Limited collaborated with a group of Australian and New Zealand scientists to develop a spatially-explicit, spatiotemporal model in the software package HandiSpread (an enhanced version of InterspreadPlus software) to simulate spread of a hypothesized zoonotic disease 'Austeria' amongst feral pigs, domestic pigs, and humans in Australia. Sponsored by MorVet Limited in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2015-10-01 through 2015-07-31.

New Zealand pig industry Government-Industry-Agreements (GIA) (2015). New Zealand government is working with major livestock and plant industries under a framework called 'Government-Industry Agreements' (GIA) to devise coordinated operational plans for management of introduced exotic diseases. GIA has been designed to manage both preparedness and response activities, and will include operational procedures, cost-sharing agreements, and strategic planning processes for improving areas of known risk. Epi-Insight worked closely with the association of pig farmers (NZPork) in drafting documents that will support implementation of GIA in the pork sector. Sponsored by New Zealand Pork Industry Board in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2015-05-01 through 2016-04-30.

Microbial hazards associated with un-processed and processed DAF solids from New Zealand dairy plants (2015). A quantitative risk assessment of exotic and high-consequence human and animal pathogens that may be disseminated through the manufacture and use of a by-product of dairy processing when used as a feed ingredient for livestock. Sponsored by Freshpork NZ in New Zealand and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2015-08-13 through 2017-10-31.

The epidemiology of porcine epidemic diarrhoea (PED) virus and its potential for introduction into Australia (2014). Systematic review of the scientific literature on porcine coronaviruses to develop a comprehensive understanding of the epidemiology of these diseases. Knowledge gained about pathogen introduction and transmission pathways were evaluated in the context of the Australian pig industry, including both the commercial and backyard sectors. Additionally, eleven of the major national, State, and private veterinary diagnostic laboratories were surveyed to better understand the depth and breadth of expertise that exists in diagnosing endemic and exotic diseases of swine. The project delivered the following outcomes: Capacity and capability assessment of all Australian veterinary laboratories with respect to diagnosis of pig diseases, systematic review and summary of the scientific literature related to transmission of coronaviruses between pigs (vertical and horizontal) and between farms, identification and priority ranking of the risk pathways that could permit the introduction of PED virus into Australia. Sponsored by Australian Pork Limited in Australia and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2014-04-11 through 2014-08-30 under Project Number 2013-2418.

The epidemiology of African swine fever virus and its potential for introduction into Australia (2014). Systematic review of the scientific literature on African swine fever virus to develop a comprehensive understanding of the epidemiology of the disease and the potential for the virus to enter and persist in Australia. Sponsored by Australian Pork Limited in Australia and contracted to Epi-Insight Limited in New Zealand. Work completed in Australia, and conducted from 2014-06-16 through 2015-01-27 under Project Number 2014-483.

Veterinary epidemiology in Bamyan Province, Afghanistan (2014). Travelled to Afghanistan to act as a veterinary epidemiologist in support of the Afghanistan Agriculture Support Programme sponsored by New Zealand Ministry of Foreign Affairs and Trade. Spent five-weeks in country (Kabul city, and Bamyan, Yakawlang, Panjab, and Waras districts of Bamyan Province) and three-weeks out of country implementing Year 2 of an intensive brucellosis control (vaccination and surveillance) programme in large and small ruminants. Work included training of vaccination teams in programme implementation, vaccination techniques, blood-sampling, and biosecurity. Additional training in general animal health skills and zoonotic disease management was completed for local and regional animal and public health workers. Agriculture in this region is almost entirely subsistence-based with both village and nomadic styles of livestock production. Sponsored by New Zealand Ministry of Foreign Affairs and Trade in New Zealand and contracted to Prime Consultants International Limited in New

Zealand. Work completed in Afghanistan, and conducted from 2014-04-01 through 2014-11-30 under Project Number 11-MFAT-002.

Porcine epidemic diarrhea (PED) virus contamination of livestock feed (2014). Developed and implemented a plan for investigating the potential association between exposure to porcine-origin feed ingredients and the occurrence of porcine epidemic diarrhea on client farms of a large commercial feed manufacturer. Work involved study design, database interrogation, site visits, analysis of data, and presentation of the results to internal customers and an international audience of veterinarians and government animal health policy staff. Sponsored by JBS United, Inc. in United States and contracted to Epi-Insight Limited in New Zealand. Work completed in United States, and conducted from 2014-04-01 through 2014-09-30.

The effect of porcine epidemic diarrhea (PED) virus infection in pregnant and lactating breeding females on their subsequent reproductive performance (2014). The effects of PED on subsequent reproductive performance of sows have not been studied and therefore the true cost of the disease and the full potential of mitigation strategies are not completely understood. This project involved analysis of reproductive data from two farms affected by acute PED to quantify the effects of the disease on reproductive performance. Sows were classified as to their stage of production (day of gestation or day of lactation) at the time of the acute outbreak (and subsequent biofeedback) to determine the relationship between stage of production at time of the outbreak and their subsequent reproductive performance. Sponsored by Merck Animal Health in United States and contracted to Epi-Insight Limited in New Zealand. Work completed in United States, and conducted from 2014-09-01 through 2014-11-30.

The significance of feral pigs as a transmission vector or reservoir species for PRRS (2014). In 2012 and 2013, a study was funded by Australian Pork Limited to assess the implications to the Australian pig industry if import health standards for fresh pork, similar to those recently enacted in New Zealand, were implemented in Australia. While pork from PRRS positive countries is not currently permitted to enter Australia without treatment sufficient to inactivate the virus, any changes to the current standards would be likely to place the industry at higher risk for introduction of PRRS virus than what is currently accepted. This project has recently been extended to evaluate the potential role of feral pigs in spread or maintenance of the virus. Sponsored by Australian Pork Limited in Australia and contracted to Epi-Insight Limited in New Zealand. Work completed in Australia, and conducted from 2014-06-23 through 2015-01-15 under Project Number 2014-484.

Capacity Building for Emerging Infectious Disease Preparedness and Response: China (2013). The China Ministry of Health funded implementation of a project to facilitate capacity building for emerging infectious disease preparedness and response in China. The objective of the project was to enhance the national capacity in preparedness for and response to priority zoonotic diseases including Avian Influenza (H5N1), brucellosis, and tuberculosis. Formal training of public sector veterinarians and doctors in one-health epidemiology was conducted to a Masters level and included classroom and field elements. Training programme was modelled after previous one-health training programmes Massey University had built for World Bank in South Asian countries. This project was done in coordination with similar training being done in Mongolia at the same time. Sponsored by Chinese Ministry of Health in China and contracted to Massey University in New Zealand. Work completed in New Zealand and China, and conducted from 2013-12-01 through 2015-06-01.

Integrating Education and Action for One Health in Afghanistan, Bangladesh, Bhutan, and Nepal (2013). Project manager for further development and delivery of two (Master of Veterinary Medicine (Biosecurity) and the Master of Public Health (Biosecurity)) degrees to candidates in Afghanistan, Bangladesh, Bhutan, and Nepal. This project was modelled after a previous $12 million NZD project delivered to World Bank for One Health training in seven Asian countries. Training on One Health epidemiology and public policy was delivered to approximately 40 medical doctors and veterinarians to improve regional capacity in epidemiology and biosecurity. Sponsored by European Commission (EuropeAid) in Belgium and contracted to Massey University in New Zealand. Work completed in Afghanistan, Bangladesh, Bhutan, and Nepal, and conducted from 2013-01-01 through 2015-12-31 under Project Number DCI-ASIE/2013/331-217.

Veterinary epidemiology in Bamyan Province, Afghanistan (2013). Travelled to Afghanistan to act as a veterinary epidemiologist in support of the Afghanistan Agriculture Support Programme sponsored by New Zealand Ministry of Foreign Affairs and Trade. Spent two-weeks in country (Kabul city, and Bamyan, Yakawlang, Panjab, and Waras districts of Bamyan Province) and two-weeks out of country assisting local ministry officials and cooperating NGOs in development of a 5-year national brucellosis surveillance and control strategy. Sponsored by New Zealand Ministry of Foreign Affairs and Trade in New Zealand and contracted to Prime Consultants International Limited in New Zealand. Work completed in Afghanistan, and conducted from 2013-05-15 through 2013-06-30 under Project Number 11-MFAT-002.

Capacity Building for Emerging Infectious Disease Preparedness and Response: Mongolia (2013). The Mongolian government in conjunction with the World Bank implemented a project to facilitate capacity building for emerging infectious disease preparedness and response in Mongolia. The objective of the project was to enhance the national capacity in preparedness for and response to five priority zoonotic diseases, namely avian influenza (H5N1), brucellosis, hydatid disease (echinococcosis), anthrax and Crimean Congo Haemorrhagic Fever in Mongolia. Formal training of public sector veterinarians and doctors in one-health epidemiology was conducted to a Masters level and included classroom and field elements. Training programme was modelled after previous One Health training programmes Massey University had built for World Bank in South Asian countries. This project was done in coordination with similar training being done in Mongolia at the same time. Sponsored by Mongolian National Emergency Management Agency in Mongolia and contracted to Massey University in New Zealand. Work completed in New Zealand and Mongolia, and conducted from 2013-12-01 through 2015-06-01.

Analysis of blood test data from the 2013 brucellosis control campaign in the Bamyan province, Afghanistan (2013). Completed analysis of the blood test data collected during Year 1 of a regional intensive brucellosis control program (2013) and developed recommendations for continued control of the disease. Included descriptive, quantitative, and spatial analysis of vaccination and surveillance data in cattle, sheep, and goats in Bamyan Province, Afghanistan. Work conducted included consultation with the Animal Health Development Programme (UK aid and development programme) and national and provincial veterinary staff. Involved four-weeks of work out of country supported by telephone and email contact with project staff in-country.

Sponsored by New Zealand Ministry of Foreign Affairs and Trade in New Zealand and contracted to Prime Consultants International Limited in New Zealand. Work completed in Afghanistan, and conducted from 2013-12-02 through 2014-03-03 under Project Number 11-MFAT-002.

Review of the Roseworthy Piggery at University of Adelaide (2012). South Australia hosts the Cooperative Research Centre program for High Integrity Australian Pork, which is headquartered at the Roseworthy Campus of the University of Adelaide. The University of Adelaide and the South Australian Research and Development Institute (SARDI) jointly support a research piggery at the Roseworthy campus. A formal review of the historical performance and current capabilities of the facility was undertaken to determine its future capacity to contribute to the state and national strategic agenda of the pork industry. Sponsored by University of Adelaide in Australia and contracted to Epi-Insight Limited in New Zealand. Work completed in Australia, and conducted from 2012-06-26 through 2012-07-26.

Veterinary epidemiology in Bamyan Province, Afghanistan (2012). Travelled to Bamyan Province in Afghanistan to act as a veterinary epidemiologist in support of the Afghanistan Agriculture Support Programme sponsored by New Zealand Ministry of Foreign Affairs and Trade. Spent four-weeks in country (Kabul city, and Bamyan, Yakawlang, Panjab, and Waras districts of Bamyan Province) and two-weeks out of country developing and implementing a provincial brucellosis surveillance strategy, brucellosis control plan, identification of priority animal diseases, and training of para-vets. Sponsored by New Zealand Ministry of Foreign Affairs and Trade in New Zealand and contracted to Prime Consultants International Limited in New Zealand. Work completed in Afghanistan, and conducted from 2012-08-23 through 2012-10-12 under Project Number 11-MFAT-002.

The risk and consequences of PRRS virus introduction to Australia through importation of pork (2012). Critically review the likely effectiveness of the three mitigation strategies described in the newly issued New Zealand IHS for fresh pig meat. Use this background information to estimate the risk of PRRSV exposure and subsequent release of the virus to an Australian pig-holding under conditions specified in the New Zealand IHS, relative to these risks under current Australian importing conditions using Interspread Plus. Estimate the consequences of PRRSV becoming established on an Australian pig holding including the likelihood, spatiotemporal characteristics, and financial impact of a multi-farm epidemic. Sponsored by Australian Pork Limited in Australia and contracted to t/a Eric Neumann in New Zealand. Work completed in Australia, and conducted from 2012-05-01 through 2012-11-29 under Project Number 2011-1039.

European Commission Avian and Human Influenza Trust Fund for the Regional Training in Animal and Human Health Epidemiology in South Asia: Phase 1 and 2 (2009). Project manager for development and delivery of two newly created Masterate programmes: Master of Veterinary Medicine (Biosecurity) and the Master of Public Health (Biosecurity) degrees. This $12 million NZD project strengthened the national capacity in South Asia (Afghanistan, Bhutan, Nepal, India, Sri Lanka, Bangladesh, and Pakistan) in epidemiology and biosecurity. Project was staffed by a team of 51 NZ and international staff. Phase 1 delivered a formal Masters degree training program in epidemiology and biosecurity to 68 medical doctors and veterinarians and Phase 2 further developed in-country and regional capacity in epidemiology and biosecurity by strengthening national institutions that were directly or indirectly responsible for diagnosis, preparedness, response, prevention, and control of highly pathogenic avian influenza and other zoonoses in each country. Sponsored by The World Bank and European Union in United States and contracted to Massey University in New Zealand. Work completed in Afghanistan, Pakistan, India, Sri Lanka, Bangladesh, Bhutan, and Nepal, and conducted from 2009-06-01 through 2013-12-31 under Project Number TF096003 (Phase 1) and TF098536 (Phase 2).

Investigation of high-fever disease in China (2007). Was the pig epidemiology specialist amongst a five-member team established and funded by the United States National Pork Board to investigate an epidemic outbreak of high-mortality in the Chinese national pig herd. An assessment of potential opportunities for future collaboration on diagnostic testing, epidemiologic study, graduate training, and emerging disease investigation in China was undertaken. Sponsored by National Pork Board in United States and contracted to t/a Eric Neumann in United States. Work completed in China, and conducted from 2007-12-09 through 2007-12-23.

Investigation of adverse reactions to vaccines and pig diseases in Australasia (2007). Consultant for international animal health company investigating adverse reactions to vaccines and pig diseases in Australasia. Additionally, involved in investigation of an emerging disease peri-weaning failure to thrive syndrome in young pigs. Sponsored by Pfizer Animal Health in Australia and contracted to Epi-Insight Limited in New Zealand. Work completed in New Zealand, and conducted from 2011-11-17 through 2012-10-09.

Porcine circovirus infection in England (2002). Assisted in the organization of and participated in an eight-day trip to England to study the possible implications of porcine circovirus infection on the United States swine industry. Affected farms, federal diagnostic laboratories, and pig specialist veterinarians were visited to ascertain the temporal-spatial characteristics of the ongoing disease outbreak and to identify risk factors for infection. The investigation was funded by the National Pork Board. Sponsored by National Pork Board in United States and contracted to t/a Eric Neumann in United States. Work completed in England, and conducted from 2002-11-11 through 2002-11-15.

Agricultural trade and policy in China (1996). Participated in a two-week trip studying trade, agricultural policy, and culture as a member of an agricultural leaders' organization. Sponsored by Illinois Agricultural Leadership Foundation in United States and contracted to t/a Eric Neumann in United States. Work completed in China, and conducted from 1996-06-14 through 1996-06-23.

Pork production and further processing in Denmark (1994). Visited swine production and slaughtering facilities as part of a delegation from the University of Illinois Pork Industry Group. Presented a talk on salmonellosis to the Staetens Veterinarum Serumlabboratorum in Copenhagen, Denmark. Sponsored by University of Illinois in United States and contracted to t/a Eric Neumann in United States. Work completed in Denmark, and conducted from 1994-07-08 through 1994-07-10.

INTERNATIONAL TRAVEL

Afghanistan, Australia, Austria, Bangladesh, Bhutan, Canada, Denmark, England, Fiji, Germany, Hong Kong, India, Indonesia, Italy, Kyrgyz Republic, Liberia, Macau, Mexico, Mongolia, Nepal, New Zealand, Pakistan, People's Republic of China, Republic of Kazakhstan, Republic of Tajikistan, Republic of Uzbekistan, South Africa, South Korea, Sri Lanka, Thailand, United States, Viet Nam.

PEER REVIEWS

Journals

Australian Veterinary Journal – ad hoc manuscript review (2013)
Journal of the American Veterinary Medicine Association – ad hoc manuscript review (2014, 2019)
Journal of Swine Health and Production – ad hoc manuscript review (2009, 2021)
New Zealand Veterinary Journal (Distinguished Referee) – ad hoc manuscript review (2006 to 2013)
MDPI Animals – ad hoc manuscript reviewer (2023, 2024)
MDPI Veterinary Sciences (2024)
National Pork Board – Scientific and technical reviewer for research proposals (2005 to Present)
PLOS One – ad hoc manuscript review (2015)
Preventive Veterinary Medicine – ad hoc manuscript review (2006, 2007, 2013, 2018, 2020)
Transboundary and Emerging Diseases – ad hoc manuscript review (2008 to 2009, 2017, 2019)
The Veterinary Journal – ad hoc manuscript review (2009, 2011)
UFAW Animal Welfare Journal – ad hoc manuscript review (2009)

Academic

University of Queensland – Doctor of Philosophy thesis review (2019)
Massey University – Master of Veterinary Science dissertation review (2005 to 2008, 2012 to 2013)
Massey University – Doctor of Philosophy thesis review (2023)
University of Sydney – Master of Veterinary Public Health Management dissertation review (2008)