

**CURRICULUM VITAE****Name: Harvey Morgan Scott****Title: Professor****Address: MS 4467, Department of Veterinary Pathobiology, College of Veterinary Medicine & Biomedical Sciences, College Station, TX, USA 77843-4467****Telephone: (979) 847-6197****Fax: (979)-845-9972****E-mail: [hmscott@cvm.tamu.edu](mailto:hmscott@cvm.tamu.edu)****A. Education/Training**

INSTITUTION AND LOCATION	DEGREE	YEAR (s)	FIELD OF STUDY
University of Saskatchewan, Canada	DVM	1988	Veterinary Medicine (with Distinction)
University of Guelph, Canada	Ph. D	1998	Epidemiology
University of Alberta, Canada	Post-Doctoral Fellow	1999	Public Health

**B. Positions and Employment**

1988-1997	Veterinary Practitioner (Cattle) – Private and Academic Settings
1998-99	Temporary Advisor – World Health Organization, European Centre for Environment and Health (Rome Division), Rome, Italy
2000-2002	Adjunct Professor of Epidemiology, Department of Public Health Sciences, University of Alberta, Canada
2000-01	Epidemiologist, Food Safety Division, Government of Alberta, Canada
2001-2006	Assistant Professor of Epidemiology, College of Veterinary Medicine, Texas A&M University, Texas, U.S.A. (granted early tenure and promotion to associate professor by Board of Regents)
2001-2007	Adjunct Professor of Epidemiology (Joint Appointment), School of Rural Public Health, Texas A&M University System (Health Sciences Center)
2006-2009	Associate Professor of Epidemiology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, Texas, U.S.A.
2008-2014	Professor of Epidemiology, College of Veterinary Medicine, Kansas State University, Kansas, U.S.A.
2009-2014	E.J. Frick Professor of Veterinary Medicine, Kansas State Univ., Kansas, U.S.A.
2014-present	Adjunct Professor of Epidemiology, College of Veterinary Medicine, Kansas State University, Kansas, U.S.A.
2014-present	Professor, Department of Veterinary Pathobiology, College of Veterinary Medicine & Biomedical Sciences, Texas A&M University, Texas, U.S.A.

**C. Awards and Honors**

2013 Zoetis Award for Veterinary Research Excellence

**D. Professional Experience****Professional Organizations and Service (examples, not complete list)**

American Society for Microbiology; American Veterinary Medical Association; Association for Veterinary Epidemiology and Preventive Medicine (Immediate past-president); International Association for Food Protection; Sigma Xi, Phi Zeta.

### Related Service and Synergistic Activities

In March 2009 I served on the Antimicrobial Resistance Initiative of the World Health Organization (WHO) Patient Safety Program. I serve on the WHO Advisory Group on Integrated Surveillance for Antimicrobial Resistance (WHO-AGISAR. I wrote / edited the 3<sup>rd</sup> AGISAR report and 3<sup>rd</sup> revision of the WHO List of Critically Important Antimicrobials. I was invited to present on antimicrobial resistance mitigation and social aspects of antimicrobial use to the American Association of Bovine Practitioners (September 2009) and to the Academy of Veterinary Consultants and provided an invited keynote addresses on the same subjects to the Conference of Research Workers in Animal Diseases (December 2009) and the American Society for Microbiology (June 2012). The FDA-CVM invited me to present courses to their staff college on antimicrobial resistance in March 2010 and again in February 2011. I was invited as an expert to the Institute on Science for Global Policy's upcoming conference, *Emerging and Persistent Infectious Diseases: Focus on Antimicrobial Resistance*, March 2013 in Houston, TX. I was also invited to deliver a talk on antimicrobial resistance concerning foodborne commensals and pathogens at the International Symposium on Antimicrobial Resistance: Towards an Integrated Vigilance Approach, November 2013 in Bogota, Colombia. I serve on McDonald's Corporation's Animal Health and Welfare Antimicrobial Resistance sub-team and advise the CDC/FDA/USDA on their NARMS on-farm pilot program. I am organizing the 2015 American Society for Microbiology Conference on this topic in Washington, DC.

### Relevant Selection of Recent / Current Funding

- 2002 The Moral Economy of Antimicrobials in Animal Agriculture: Advancing Policy and Practice in an Era of Antimicrobial Resistance. \$USD 436,139. USDA-CSREES-NIFSI (2002-2005, No cost extension to 2007). PI.
- 2003 Transmission Dynamics of Antimicrobial Resistance in Integrated Animal and Human Populations. \$USD 1,500,000. USDA-CSREES-NRI 2003-2008). PI.
- 2008 An integrated approach to determine *Salmonella* dynamics in the niche-market antimicrobial-free swine production system. \$USD 592,226. USDA-CSREES-NIFSI (2008-11). Co-I.
- 2008 Novel pre-harvest interventions to protect antimicrobials of critical importance to human and veterinary medicine. \$USD 930,996. USDA-CSREES-NRI 32.0B (2008-12). Co-I.
- 2008 Molecular epidemiology of *Salmonella* in conventional and antimicrobial-free (ABF) swine production systems. \$USD 389,383. USDA-CSREES-NRI 32.0B (2009-12). Co-I.
- 2010 Practical interventions to effectively manage antibiotic resistance in beef and dairy cattle systems: a fully integrated approach. \$USD 2,000,000 USDA-NIFA-NIFSI (09/01/10-08/31/14; no cost extension to 08/31/15). PI.
- 2010 Towards controlling antimicrobial resistance in swine production systems: harnessing the paradoxical effects of micro-minerals and feed-grade antimicrobials on resistance in enteric bacteria. \$USD 49,943 National Pork Board (01/01/11-12/31/10). PI
- 2012 Foodborne hazard associated with an emerging *Campylobacter jejuni* clone in ruminants. \$USD 499,999 USDA-NIFA-AFRI (07/01/12-06/30/15). Co-I.
- 2013 Alternatives to antibiotics? Effects on MRSA prevalence in swine production systems. \$USD 99,950 National Pork Board (01/05/2013-01/08/2015). PI.
- 2013 Alternatives to antibiotics in animal agriculture: impacts on antimicrobial resistance of enteric bacteria. \$USD 800,000 USDA-NIFA (09/1/2013-09/1/2017). PI.

**LIST OF PUBLICATIONS (last 4-years)**

**Chronological Selection of Peer-reviewed Publications (Limited to Past 4 Years: 32 out of 87 peer-reviewed papers since 1998).** Where a student or post-doctoral researcher that I advised\* has authored or co-authored the article, I will most often appear as second author. I also note if I am the principal investigator\*\* of the funded research.

1. Bissett Jr., W., Smith, R., Adams, L.G., Field, R., Moyer, W., Phillips, T., **Scott, H.M.**, Thompson, J.A. (2009) Geostatistical analysis of biomarkers of genotoxicity in cattle, *Bos taurus* and *Bos taurus* \* *Bos indicus*, sentinels near industrial facilities. *Ecotoxicology*. **18**, 87-93.
2. McIntosh, W.A., Schulz, S., Dean, W.R.\*, **Scott, H.M.\*\***, Barling, K.S., Takei, I. (2009) Feedlot veterinarians' moral and instrumental beliefs regarding antimicrobial use in feedlot cattle. *Journal of Community and Applied Social Psychology*. **19**, 51-67.
3. Bissett, W.T., Adams, L.G., Field, R., Moyer, W., Phillips, T., **Scott, H.M.**, Wade, T., Sweet, S., Thompson, J.A. (2009) An evaluation of the health status of the Lavaca Bay, Texas Ecosystem using *Crassostrea virginica* as the sentinel species. *Marine Pollution Bulletin*. **58**, 280-286.
4. W. Q. Alali\*, **H. M. Scott\*\***, K.L. Christian, V.R. Fajt, R.B. Harvey, D.B. Lawhorn. (2009) Relationship between the level of antibiotic use and resistance among *Escherichia coli* isolated from integrated multi-site cohorts of humans and swine. *Preventive Veterinary Medicine*. **90**, 160-167.
5. Alali, W.Q.\*, **Scott, H.M.\*\***, Norby, B., Gebreyes, W., Loneragan, G.H. (2009) Quantification of the *bla*<sub>CMY2</sub> in feces from beef feedlot cattle administered three different doses of ceftiofur crystalline-free acid in a longitudinal controlled field trial. *Foodborne Pathogens and Diseases*. **6**, 917-924.
6. Norman, K.N.\*, Harvey, R.B., **Scott, H.M.\*\***, Hume, M.E., Andrews, K., Brawley, A.D. (2009) Varied prevalence of *Clostridium difficile* in an integrated swine operation. *Anaerobe*. **15**, 259-260.
7. Rollo, S.N., Norby, B., Bartlett, P.C., **Scott, H.M.**, Wilson, D.L., Libal, M.C., Fajt, V.R., Linz, J.E., Bunner, C.E., Kaneene, J.B., Huber, J.C. (2010) Prevalence and antimicrobial susceptibility of *Campylobacter* spp. isolates from finishers reared on antimicrobial-free and conventional swine farms in the Midwest. *Journal of the American Veterinary Medical Association*. **236**, 201-210.
8. VanLeeuwen, J.A., Haddad, J.P., Dohoo, I.R., Keefe, G.P., Tiwari, A., **Scott, H.M.**, Whiting, T. (2010) Risk factors associated with *Neospora caninum* seropositivity in randomly sampled Canadian dairy cows and herds. *Preventive Veterinary Medicine*. **93**, 129-138.
9. Cooper, S.M., **Scott, H.M.\*\***, de la Garza, G.R.\*, Deck, A.L.\*, Cathey, J.C. (2010) Distribution and inter-species contact of feral swine and cattle on rangeland in south Texas: implications for disease transmission. *Journal of Wildlife Diseases*. **46**, 152-164.
10. Alali, W.Q.\*, **Scott, H.M.\*\***, Norby, B. (2010) Assessing the similarity of antimicrobial resistance phenotypes among fecal *Escherichia coli* isolates from two aggregated occupational cohorts of humans versus swine using cluster analysis and multivariate statistics. *Preventive Veterinary Medicine*. **94**, 77-83.
11. Babcock, A.H., Renter, D.G., White, B.J., **Scott, H.M.** (2010) Temporal distributions of respiratory disease events within cohorts of feedlot cattle and associations with cattle

- health and performance indices. *Preventive Veterinary Medicine*. **97**, 198-219.
12. Jan, J.S., McIntosh, W.A., **Scott, H.M.\*\***, Dean, W.R. (2010) The relationship between moral obligations to others and others' influence in decisions to utilize antibiotics in feedlot cattle. *Journal of Rural Social Sciences*. **25**, 122-148.
  13. Villarino, M.A., **Scott, H.M.**, Jordan, E.R. (2011) Influence of parity at time of detection of serologic antibodies to *Mycobacterium avium* subspecies *paratuberculosis* on reduction in daily and lifetime milk production in Holstein cows. *Journal of Animal Science*. **89**, 267-276.
  14. Soskolne, C.L., Jhangri, G.S., **Scott, H.M.**, Brenner, D.R., Siemiatycki, J., Lakhani, R., Gérin, M., Dewar, R., Miller, A.B., Risch, H.A. (2011) Population-based case-control study of occupational exposure to acids and the risk of lung cancer: evidence for specificity of association. *International Journal of Occupational and Environmental Health*. **17**, 1-8.
  15. Amachawadi, R. G., N. W. Shelton, X. Shi, J. Vinasco, S. S. Dritz, M. D. Tokach, J. L. Nelssen, **H. M. Scott**, and T. G. Nagaraja. (2011). Selection of *tcrB* gene mediated copper resistant fecal enterococci in pigs fed diets supplemented with copper. *Appl. Environ. Microbiol.* **77**, 5597-5603.
  16. Cino-Ozuna, A.G., Henry, S., Hesse, R., Nietfeld, J.C., Bai, J., **Scott, H.M.**, Rowland, R.R.R. (2011). Characterization of a new disease syndrome associated with porcine circovirus type 2 (PCV2) in previously vaccinated herds. *Journal of Clinical Microbiology*, **49**, 2012-2016.
  17. Dziezyc, J., Taylor, L., Boggess, M.M., **Scott, H.M.** (2011). The effect of ocular blinkers on the horses' reactions to four different visual and audible stimuli: results of a crossover trial. *Veterinary Ophthalmology*, **14**, 327-332.
  18. Dean, W.R., McIntosh, W.A., **Scott, H.M.\*\***, Barling, K.S. (2011). The role of trust and moral obligation in beef cattle feedlot veterinarians' contingent adoption of antibiotic metaphylaxis recommendations. *International Journal of Sociology of Agriculture and Food*, **18**, 104-120.
  19. Harvey, R.B., Norman, K.N. Andrews, K., Norby, B., Hume, M.E., Scanlan, C.M., Hardin, M.D., **Scott, H.M.** (2011). *Clostridium difficile* in retail meat and processing plants in Texas. *Journal of Veterinary Diagnostic Investigation*, **23**, 807-811.
  20. Delgado, A.H., Norby, B., Dean, W.R., McIntosh, W.A., **Scott, H.M.** (2012) Utilizing qualitative methods in survey design: Examining Texas cattle producers' intent to participate in foot-and-mouth disease detection and control. *Preventive Veterinary Medicine*, 103, 120-135.
  21. Jan, J-S., McIntosh, W.A., Dean, W.R., **Scott, H.M.\*\*** (2012) Predictors of differences in the perception of antimicrobial resistance risk in the treatment of sick, at-risk, and high-risk feedlot cattle. *Preventive Veterinary Medicine*, 106, 24-33.
  22. Xue, L., **Scott, H.M.**, Cohnstaedt, L.W., Scoglio, C. (2012) A network-based meta-population approach to model Rift Valley fever epidemics. *Journal of Theoretical Biology*, 306, 129-144.
  23. Cottell, J. L., N. Kanwar, L. Castillo-Courtade, G. Chalmers, **H. M. Scott\*\***, B. Norby, G. Loneragan, and P. Boerlin. (2012). *bla*<sub>CTX-M-32</sub> on an IncN plasmid in *E. coli* from U. S. beef cattle. *Antimicrobial Agents and Chemotherapy*. doi:10.1128/AAC.01750-12.
  24. Babcock, A. H., N. Cernicchiaro, B. J. White, S. R. Dubnicka, D. U. Thomson, S. E. Ives, **H. M. Scott**, G. A. Milliken, and D. G. Renter. (2013). A multivariable assessment

- quantifying effects of cohort-level factors associated with combined mortality and culling risk in cohorts of U. S. commercial feedlot cattle. *Preventive Veterinary Medicine*. 108, 38-46.
25. Amachawadi, R. G\*, **H. M. Scott\*\***, C. A. Alvarado, T. R. Mainini, J. Vinasco, J. S. Drouillard, and T. G. Nagaraja. 2013. Occurrence of the transferable copper resistance gene, *tcrB*, among fecal enterococci of U. S. feedlot cattle fed copper supplemented diets. *Applied and Environmental Microbiology*. 79, 4369-4375.
  26. Keelara, S., **H. M. Scott**, W. M. Morrow, W. A. Gebreyes, M. Correa, R. Nayak, R. Stefanova, and S. Thakur. 2013. Longitudinal study of distributions of similar antimicrobial-resistant Salmonella serovars in pigs and their environment in two distinct swine production systems. *Applied and Environmental Microbiology*. 79, 5167-5178.
  27. Kanwar, N\*, **H. M. Scott\*\***, B. Norby, G. H. Loneragan, J. Vinasco, M. McGowan, J. L. Cottell, M. M. Chengappa, J. Bai, and P. Boerlin. 2013. Effects of ceftiofur and chlortetracycline treatment strategies on antimicrobial susceptibility and on *tet(A)*, *tet(B)*, *bla<sub>CMY-2</sub>* resistance genes among *E. coli* isolated from the feces of feedlot cattle. *PLoS One*. 8: e80575.
  28. Doud, C. W., **H. M. Scott**, and L. Zurek. 2014. Role of house flies in the ecology of *Enterococcus faecalis* from wastewater treatment facilities. *Microbial Ecology*. 67, 380-391.
  29. Norman, K. N., **H. M. Scott**, R. B. Harvey, B. Norby, and M. E. Hume. 2014. Comparison of antimicrobial susceptibility among *Clostridium difficile* isolated from an integrated human and swine population in Texas. *Foodborne Pathogens Diseases*. 11, 257-264.
  30. Loneragan, G. H., D. U. Thomson, and **H. M. Scott**. 2014. Increased mortality in groups of cattle administered the  $\beta$ -adrenergic agonists Ractopamine hydrochloride and Zilpaterol hydrochloride. *PLoS One*. 12: e91177
  31. Keelara, S., **H. M. Scott**, W. M. Morrow, C. S. Hartley, D. L. Griffin, W. A. Gebreyes, and S. Thakur. Comparative phenotypic and genotypic characterization of temporally related nontyphoidal Salmonella isolated from clinical cases, pigs, and the environment in North Carolina. *Foodborne Pathogens Diseases*. 11,156-164.
  32. Agga, G. E\*, **H. M. Scott\*\***, R. G. Amachawadi, T. G. Nagaraja, J. Vinasco, J. Bai, B. Norby, D. G. Renter, S. S. Dritz, J. L. Nelssen, and M. D. Tokach. 2014. Effects of chlortetracycline and copper supplementation on antimicrobial resistance of fecal *Escherichia coli* from weaned pigs. *Preventive Veterinary Medicine*. doi: 10.1016/j.prevetmed.2014.02.010.
  33. Kanwar, N\*, **H. M. Scott\*\***, B. Norby, G. H. Loneragan, J. Vinasco, J. L. Cottell, G. Chalmers, M. M. Chengappa, J. Bai, and P. Boerlin. 2014. Impact of treatment strategies on cephalosporin and tetracycline resistance gene quantities in the bovine fecal metagenome. *Nature Scientific Reports*. 4: 05100.
  34. Larrabee, B., **H. M. Scott**, N.M. Bello. 2014. Ordinary least squares regression of ordered categorical data: inferential implications for practice. *Journal of Agricultural, Biological, and Environmental Statistics*. DOI: 10.1007/s13253-014-0176-z.