

Locke Anderson Karriker, DVM, MS, DACVPM

Morrill Professor, Veterinary Diagnostic and Production Animal Medicine
Director, Swine Medicine Education Center
2227 Lloyd Veterinary Medical Center

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Summary of Position Responsibility Statement

Dr. Locke Karriker is a Full Professor with Tenure in the Food Supply Veterinary Medicine Section within the Department of VDPAM. His position is a mix of teaching, research and service activities focused on supporting the practice of swine production medicine. Approximately 50% of his time is devoted to teaching. This includes serving as Director of the Swine Medicine Education Center at the College of Veterinary Medicine and courses that include clinical medicine rotations on constituent farms as well as portions of several core didactic courses that are specific to swine topics. This represents the majority of professional education on swine topics in the current veterinary curriculum at the ISU CVM. Dr. Karriker may also teach swine production medicine at other veterinary colleges. Approximately 25% of Dr. Karriker's time is committed to professional practice/outreach. This includes organizing and advising the health and biosecurity plan for the 16 ISU campus locations that house swine and coordinating the health plans of the three administrative units in charge of the sites. Additional service activities are conducted in Iowa, nationally, and internationally. These activities include phone and email consultations, live formal presentations at meetings of practitioners and producers, live consultation with diagnostic laboratory clients, and may include on farm investigations in multiple states. Dr. Karriker commits approximately 20% of his time to research. Research activities are laboratory or field based, funded by competitive grants, and include responsibilities as Primary Investigator and Collaborator. Topics of research activities are likely to be focused on health management of swine production including advancing knowledge on pharmacology and welfare, further characterizing disease conditions and risk factors and assesses new technologies and intervention strategies. University Service commitments (5% effort) include activities such as serving on department and college committees, participation in search committees, and interactions with the Iowa Pork Industry Center, and representing the college at state and national pork commodity group activities.

Education

Executive Veterinary Program in Swine Health Management, University of Illinois College of Veterinary Medicine, April 2009.

Diplomate of the American College of Veterinary Preventive Medicine, Admitted by Examination, August 2006.

Master of Science in Veterinary Science. Mississippi State University, Starkville, Mississippi, 2000. Area of concentration: Swine Production Medicine

Doctor of Veterinary Medicine. Mississippi State University College of Veterinary Medicine, Starkville, Mississippi, 1999.

Bachelor of Science in Biology, Minor in Chemistry. University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, 1995.

Veterinary Practice Credentials

Veterinary Licensure: Kansas, Iowa

USDA Accreditation, Category II: Kansas, Iowa

Professional Veterinary Practice Experience and Appointments

Morrill Professor with Tenure, Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University. Assigned 50% Teaching, 20% Professional Practice, 20% Research, 10% University Service. 2021 - Present.

Scientist, National Institute of Antimicrobial Resistance Research and Education. Iowa State University Research Park, Ames, IA. www.NIAMRRE.org. 2020 - Present

Animal Care Review Panelist, Center for Food Integrity, Gladstone, MO. 2020.

Voting Member of the Council, Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB), United States Department of Health and Human Services. Voting Member of the Council. 2019 – Present.

Interim Department Chair, Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University. Served as Department Executive Officer, judiciously managed department budget and resources through two appropriations cuts and a mid-term reversion, maintained mission focus, conducted recruitment and hiring, advocated enthusiastically for faculty and staff advancement, and conducted annual reviews. May 2017 – October 2018.

Professor with Tenure, Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University. Assigned 50% Teaching, 20% Professional Practice, 20% Research, 10% University Service. 2016 – 2021.

Dr. Douglas and Ann Gustafson Professor of Excellence in Veterinary Education, College of Veterinary Medicine. 2014 – present.

Director and Founder, Swine Medicine Education Center at the Iowa State University College of Veterinary Medicine. 2010 – present.

Associate Professor with Tenure, Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University. Assigned 50% Teaching, 20% Professional Practice, 20% Research, 10% University Service. 2010-2016.

Assistant Professor, Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University. Assigned 50% Teaching, 20% Professional Practice, 20% Research, 10% University Service. 2003-2010.

Swine Section Leader, Food Supply Veterinary Medicine, College of Veterinary Medicine, Iowa State University. 2006 – 2007, 2009 - 2015.

National Barrow Show Progeny Test Veterinarian, Ames, IA 2004 – 2006.

Production Veterinarian, Seaboard Farms. Guymon, Oklahoma, 1999 – 2003. Responsibilities included primary veterinary care for all phases of 185,000 sow herd, regulatory compliance, development and implementation of Biosecurity Program, adoption of needle free injection technology, supervision of vaccine and antibiotic safety and efficacy trials, development of on farm food safety program, education of production personnel on treatment and disease topics, and supervision of four technicians and one veterinarian.

Awards

Morrill Professor, Iowa State University, 2021

Excellence in Remote Instruction Award, Iowa State University COVID-19 Exceptional Effort Awards Program, 2021.

Iowa State University Award for Outstanding Achievement in Teaching, 2015.

Dr. Douglas and Ann Gustafson Professor of Excellence in Veterinary Education, 2014.

Howard Dunne Memorial Award, American Association of Swine Veterinarians, 2014.

Faculty Member of the Year, College of Veterinary Medicine. Iowa State University, 2012.

Alumnus of the Year for the College of Veterinary Medicine at Mississippi State University. 2012.

Dr. William O. Reece Award for Outstanding Academic Advising. Iowa State University College of Veterinary Medicine, 2011.

Howard Dunne Memorial Lecture. Annual Meeting of the American Association of Swine Veterinarians, 2011.

Miller Faculty Fellow, Iowa State University, 2005-2006.

Nominated and invited to attend the 2006 Wakonse Conference on College Teaching from May 25-30, 2006 for dedication to improving teaching and learning on the Iowa State University campus. February 2006.

Mississippi Veterinary Medical Association Graduate Award for Excellence in Economic and Performance Medicine, Mississippi State University College of Veterinary Medicine, 1999.

Clinical Pathological Conference Award, Mississippi State University College of Veterinary Medicine, 1999.

Leon Turner Award for Merit Demonstrated in General Pathology and Swine Medicine, Mississippi State University College of Veterinary Medicine, 1999.

Fort Dodge Production Medicine Award, Mississippi State University College of Veterinary Medicine, 1999.

Thomas C. Randolph Memorial Scholarship, Mississippi State University College of Veterinary Medicine, 1998.

Morehead Scholarship, John Motley Morehead Foundation, University of North Carolina at Chapel Hill, 1995. North Carolina Merit Award, John Motley Morehead Foundation, University of North Carolina at Chapel Hill, 1991.

Refereed Publications (99)

“**” Denotes a student that Dr. Karriker mentored, served as major professor, served as graduate committee member, or served as professional (DVM) curriculum advisor during the study.

99. Warner R**, Smith B, Stalder K, **Karriker L**, Plaengkaeo S, Ramirez B, Gorden P. Embedded microcomputer-based force plate system validation when evaluating lameness severity differentiation under an induced synovitis model in lactating dairy cattle. 2021. Submitted to *Animal: The International Journal of Animal Biosciences*. January 21, 2021.
98. Baysinger A, Webb Sherrie, Brown Jennifer, Coetzee Johann, Crawford S, DeDecker A, **Karriker L**, Pairis-Garcia M, Sutherland M, Viscardi A. 2021. The need for multidimensional pain outcome validation in piglets to demonstrate analgesic drug efficacy and facilitate future drug approval. Submitted to *Frontiers in Veterinary Science, Animal Behavior and Welfare Section*. January 18, 2021
97. Massey N**, Shrestha D, Mahadev S, Kondru N, Charli A, **Karriker L**, Kanthasamy A, Charavaryamath C. 2021. Organic dust induced mitochondrial dysfunction could be targeted via cGAS-STING or cytoplasmic NOX-2 inhibition using microglial cells and brain slice culture models. Accepted for publication in *Cell and Tissue Research*. January 21, 2021.
96. Jackson C**, Johnson A, Stalder K, Edler R, Holck J, DuBois P, **Karriker L**, Sadler L, Stambuk C. 2020. Drinker to nursery pig ratio: Drinking behavior, aggression, and drinker location preference over 2 days. Accepted by the *Journal of Swine Health and Production*. September 16, 2020.
95. Sanjana Mahadev Bhat, Shrestha D, Massey N, **Karriker L**, Kanthasamy A, Charavaryamath C. 2020. Organic Dust Exposure Induces Stress Response and Mitochondrial Dysfunction in Monocytic Cells. Submitted to *Histochemistry and Cell Biology*. December 1, 2020.
94. Ana Paula Serafini Poeta Silva, Marostica TP; McDaniel A; Arruda B; Alonso C; Derscheid R; Yeske P; Linhares DC; Giménez-Lirola L; **Karriker L**; Fano E; Zimmerman J; Clavijo M. 2020. Comparison of *Mycoplasma hyopneumoniae* response to infection by route of exposure. Submitted to *Veterinary Microbiology*. December 2020.
93. Kittrell HC**, Mochel JP, Brown JT, Forseth AMK**, Hayman KP**, Rajewski SM, Coetzee JF, Schneider BK, Ratliffe B**, Skoland KJ, **Karriker LA**. 2020. Pharmacokinetics of Intravenous, Intramuscular, Oral, and Transdermal Administration of Flunixin Meglumine in Pre-wean Piglets. *Frontiers in Veterinary Science*. Aug 28;7:586. doi: 10.3389/fvets.2020.00586. eCollection 2020.
92. Akin E, Johnson A, Jass C, **Karriker L**, Ross J, Stalder K, Stinn J, Millman S. 2020. Providing human on-farm handling tools to move non-ambulatory grow-finish pigs on a

commercial farm. Submitted to the Asian-Australasian Journal of Animal Sciences. November 2020.

91. Ruston C**, Zhang J, Scott J, Zhang M, Graham K, Linhares D, Breuer M, **Karriker L**, Holtkamp D. 2021. Efficacy of Ultraviolet C disinfection for inactivating Senecavirus A on contaminated surfaces commonly found on swine farms. *Veterinary Microbiology*. Mar 19;256:109040. doi: 10.1016/j.vetmic.2021.109040
90. Lane K**, Johnson A, Stilwill C, **Karriker L**, Harmon J, Stalder K. 2020. Comparison of heat lamps and heat mats in the farrowing house: effect on piglet production, energy use, and piglet and sow behavior through live observation. *Journal of Swine Health and Production*. 28(4):205-212
89. Johnson A, Garcia A, **Karriker L**, Stalder K. 2020. Sow lateral toe growth and lesion presence on hooves when housed in gestation stalls. *Journal of Animal Sciences and Livestock Production*. Vol.4 No.2:7. DOI: 10.36648/2577-0594.4.2.7
88. Lane K**, Johnson A, Stilwill C, Harmon J, **Karriker L** and K. J. Stalder. 2020. Comparison of heat lamps and heat mats in the farrowing house: effect on piglet production, energy usage and piglet and sow behavior through digital observation. *EC Veterinary Science* 5.5 (2020): 18-26.
87. AVMA Committee on Antimicrobials (Swine Species Group). 2020. Antimicrobial resistant pathogens affecting animal health in the United States. <https://www.avma.org/resources-tools/one-health/antimicrobial-use-and-antimicrobial-resistance/antimicrobial-resistant-pathogens-affecting-animal-health>. Accessed November 30, 2020.
86. Ruston C**, Linhares D, Blay M, Nickel M, Skoland K, Kittrell H**, Brown J, **Karriker L**, Breuer M, Holtkamp D. 2020. Evaluation of a staged loading procedure for the loadout of market swine to prevent the transfer of swine pathogen contaminated particles from livestock trailers to the barn. Submitted to the *Journal of Swine Health and Production*. Accepted February 16, 2021.
85. Bates JL**, **Karriker LA**, Rajewski SM, Lin Z, Gehring R, Li M, Riviere JE, Coetzee JF. 2020. A study to assess the correlation between plasma, oral fluid and urine concentrations of flunixin meglumine with the tissue residue depletion profile in finishing-age swine. *BMC Vet Res*. 2020 Jun 22;16(1):211. doi: 10.1186/s12917-020-02429-w.
84. Ruston C**, Canning P**, Monahan V**, Fitzgerald C**, Brown J**, Skoland K, Kittrell H**, Hayman K**, **Karriker L**. 2020. Development and improvement of an international webcast series to expand the accessibility of swine medicine resources. *Journal of Veterinary Medical Education*. 2020 May 15:e20190033. doi: 10.3138/jvme.2019-0033. Online ahead of print. PMID: 32412373.
83. Stambuk CR, Sadler LJ, DuBois PR, Edler RA, Holck JT, Jackson CJ, **Karriker LA**, Stalder KJ, Johnson AK. 2020. More nipple cup drinkers to fewer pigs on the day of weaning into a conventional nursery results in reduced aggression and more visits to the drinker. *Journal of Animal Sciences and Livestock Production*. Vol.4 No.2:3.
82. LaVallee KT, Maus TP, Stock JD, Stalder KJ, **Karriker LA**, Murthy NS, Kanwar R, Beutler AS, Unger MD. 2020. Quantitation of Gait and Stance Alterations Due to Monosodium Iodoacetate-induced Knee Osteoarthritis in Yucatan Swine. *Comp Med*. Jun 1;70(3):248-257. doi: 10.30802/AALAS-CM-19-000075. Epub 2020 Apr 24.

81. Li M, Mainquist-Whigham C**, **Karriker L**, Wulf L, Zeng D, Gehring R, Riviere J, Coetzee J, Lin Z. 2019. An integrated experimental and physiologically based pharmacokinetic modeling study of penicillin G in heavy sows. *J Vet Pharmacol Ther.* 2019 Jul;42(4):461-475. doi: 10.1111/jvp.12766. Epub 2019 Apr 23.
80. Canning P**, Costello N, Mahan-Riggs E**, Schwartz K, Skoland K, Crim B, Ramirez A, Linhares D, Gauger P, **Karriker L**. 2019. Retrospective study of lameness cases in growing pigs associated with joint and leg submissions to a veterinary diagnostic laboratory. *J Swine Health Prod.* 2019;27(3):118-124.
79. Brown J**, Rademacher C, Baker S, Poonsuk K, Cheng T, Skoland K, Canning P**, Forseth A**, **Karriker L**. 2019. Efficacy of a commercial porcine epidemic diarrhea virus vaccine at reducing duration of viral shedding in gilts. *J Swine Health Prod.* 2019;27(5):256-264.
78. Mehling S, Henao-Diaz S, Maurer J, Kluber E, Stika R, Rademacher C, Zimmerman J, Giménez-Lirola L, Wang C, Holtkamp D, Main R, **Karriker L**, Linhares D, Breuer M, Goodell C, Baum D. 2019. Mortality patterns in a commercial wean-to-finish swine production system. *Vet. Sci.* 2019, 6, 49; doi:10.3390/vetsci6020049
77. Bhat SM, Massey N**, **Karriker L**, Singh B, Charavaryamath C. 2019. Ethyl pyruvate reduces organic dust-induced airway inflammation by targeting HMGB1-RAGE signaling. *Respir Res.* 2019 Feb 6;20(1):27. doi: 10.1186/s12931-019-0992-3.
76. Azarpajouh S, Garcia A, Jackson C, **Karriker L**, Ramirez A, Johnson A. 2018. The importance of water in pig production. *CAB Reviews* 2018 13, No. 048. doi: 10.1079/PAVSNR201813048
75. Weimer S**, Fangman T, **Karriker L**, Stalder K and Johnson A. 2018. Nursery pig behavior evaluation pre- and post-injection using digital-image methodology. *J Swine Health Prod.* 26(1):25–33.
74. Baker K, Mowrer C, Zhang J, Chen Q, Ramirez A, Wang C, **Karriker L**, and Holtkamp D. 2018. Evaluation of a peroxygen-based disinfectant for inactivation of porcine epidemic diarrhea virus at low temperatures on metal surfaces. *Vet Microbiol.* Feb;214:99-107. doi: 10.1016/j.vetmic.2017.12.019. Epub 2017 Dec 27
73. Canning P**, Bates J**, Skoland K, Coetzee J, Wulf L, Rajewski S, Wang C, Gauger P, Ramirez A, and **Karriker L**. 2018. Variation in water disappearance, daily dose, and synovial fluid concentrations of tylvalosin and 3-O-acetyltylosin in commercial pigs during five-day water medication with tylvalosin under field conditions. *J Vet Pharmacol Ther.* Aug;41(4):632-636. doi: 10.1111/jvp.12503.
72. Cornelison A**, **Karriker L**, Williams N, Haberl B, Stalder K, Schulz L and Patience J. 2018. Impact of health challenges on pig growth performance, carcass characteristics and net returns under commercial conditions. *Transl. Anim. Sci.* 2018.2:50–61.
71. Canning P**, O'Brien K**, Thompson V**, Madson D, Skoland K, Ramirez A, Linhares D, Gauger P and **Karriker L**. 2018 Suitability of four injectable anesthetic protocols for percutaneous synovial fluid aspiration in healthy swine under field conditions and assessment of lameness seven days post procedure. *Journal of Swine Health and Production.* 26(3):130-136.

70. Canning P**, Viall A, O'Brien K**, Madson D, Skoland K, Krull A, Linhares D, Gauger P, Ramirez A and **Karriker L**. 2018. Fluid analysis and cytology reference intervals for synovial fluid from carpal and tarsocrural joints in non-lame commercial growing swine. *Am J Vet Res*. 2018 Aug;79(8):858-866. doi: 10.2460/ajvr.79.8.858.
69. Baker K, Thomas P, **Karriker L**, Ramirez A, Zhang J, Wang C and Holtkamp D. 2017. Evaluation of an accelerated hydrogen peroxide disinfectant to inactivate porcine epidemic diarrhea virus in swine feces on aluminum surfaces under freezing conditions. *BMC Veterinary Research*. Dec 1;13(1):372. doi: 10.1186/s12917-017-1300-4.
68. Schweer W, Schwartz K, Patience J, **Karriker L**, Sparks C, Weaver M, Fitzsimmons M, Burkey T, and Gabler N. 2017. Porcine Reproductive and Respiratory Syndrome virus reduces feed efficiency, digestibility, and lean tissue accretion in grow-finish pigs. *Transl. Anim. Sci*. 2017.1:480–488
67. Canon A**, Lauterbach N**, Bates J**, Skoland K, Thomas P, Ellingson J, Ruston C**, Breuer M**, Gerardy K**, Hershberger N**, Hayman K**, Buckley A**, Holtkamp D and **Karriker L**. 2017. Evaluation of pyramid training as a method to increase diagnostic sampling capacity during an emergency veterinary response to a swine disease outbreak. *Journal of the American Veterinary Medical Association*. Jun 15;250(12):1395-1399. doi: 10.2460/javma.250.12.1395.
66. Elsbernd A**, Patience J, **Karriker L**, Stalder K, de Lange C. 2017. SID lysine requirement of immunologically and physically castrated male pigs during the grower, early and late finisher periods. *Journal of Animal Science*, Mar;95(3):1253-1263. doi: 10.2527/jas.2016.0544.
65. Canning P**, Ruston C**, Madson D, Bates J**, Skoland K, Davenport J**, Gaul S, Wang C, Chen Q, Zhang J, **Karriker L**. 2017. Effect of direct fed microbial, (*Bacillus subtilis* C-3102), on enteric health in nursery pigs after challenge with Porcine Epidemic Diarrhea Virus (PEDv). *Journal of Swine Health and Production*. 25(3):129–137.
64. Holtkamp D, Myers J, Thomas P**, **Karriker L**, Ramirez A, Zhang J, Mowrer C, Bates J**, Skoland K, Wang C. 2017. Efficacy of an accelerated hydrogen peroxide disinfectant to inactivate porcine epidemic diarrhea virus in swine feces on metal surfaces. *Canadian Journal of Veterinary Research*. Apr;81(2):100-107.66.
63. Roca A**, Johnson A, **Karriker L**, Timms L, Abell C, Stalder K. 2016. How do sow postures change when lameness is induced using a chemical synovitis model? *Livestock Science* 192 pgs. 55-59.
62. Parsons R, Johnson A, Coetzee J, **Karriker L**, Pairis-Garcia M**, Stalder K, Millman S. 2016. Flooring preference and behavior in sound and lame sows. *Acta Agriculturae Scandinavica, Section A — Animal Science*, 66:2, 115-118, DOI: 10.1080/09064702.2016.1256421
61. Sparks J**, **Karriker L**, Day D**, Wulf L, Zhang J, Stock M, Bates J**, Gehring R, Coetzee J. 2016. Vaccination mitigates the impact of PRRSv infection on the pharmacokinetics of ceftiofur crystalline free acid in pigs. *Journal of Veterinary Pharmacology and Therapeutics*. Nov 24. doi: 10.1111/jvp.12369. [Epub ahead of print].
60. Canning P, Canon A, Bates J, Gerardy K, Linhares D, Pineyro P, Schwartz K, Rademacher C, Holtkamp D, **Karriker L**. 2016. Neonatal mortality, vesicular lesions and lameness

associated with Senecavirus A in a U.S. sow farm. *Transboundary and Emerging Diseases*. Version of Record online: 23 MAY 2016, DOI: 10.1111/tbed.12516.

59. Baker K, Mowrer C, Canon A, Linhares D, Rademacher C, **Karriker L** and Holtkamp D. 2017. Systematic epidemiological investigations of cases of Senecavirus A in US swine breeding herds. *Transboundary and Emerging Diseases* 64: 11–18. doi:10.1111/tbed.12598
58. Canning P**, Bates J**, Hammen K, Coetzee J, Wulf L, Sander S, Wang C, **Karriker L**. 2016. Concentrations of tylvalosin and 3-O-acetyltylosin attained in the synovial fluid of swine after administration by oral gavage at 50mg/kg and 5mg/kg. *Journal of Veterinary Pharmacology and Therapeutics*. Dec;39(6):621-624. doi: 10.1111/jvp.12309.
57. Parsons R, Millman S, Coetzee J, **Karriker L**, Mohling C, Pairis-Garcia M**, Stalder K, Johnson A. 2015. Sow behavioral responses to transient, chemically induced synovitis lameness. *Acta Agriculturae Scandinavica, Section A — Animal Science*, DOI: 10.1080/09064702.2015.1110617
56. Vangroenweghe F, **Karriker L**, Main R, Christianson E, Marsteller T, Hammen K, Bates J**, Thomas P**, Ellingson J, Harmon K, Abate S, Crawford K**. 2015. Assessment of litter prevalence of *Mycoplasma hyopneumoniae* in preweaned piglets utilizing an antemortem tracheobronchial mucus collection technique and a real-time polymerase chain reaction assay. 2015. *Journal of Veterinary Diagnostic Investigation*. Sep;27(5):606-10.
55. O'Connor A, Anthony R, Bergamasco L, Coetzee J, Dzikamunhenga R, Johnson A, **Karriker L**, Marchant-Forde J, Martineau G, Millman S, Pajor E, Rutherford K, Sprague M, Sutherland M, von Borell E, Webb S. 2015. Review: Assessment of completeness of reporting in intervention studies using livestock: an example from pain mitigation interventions in neonatal piglets. *Animal* Nov 11:1-11. [Epub ahead of print]
54. Elsbernd A**, Stalder K, **Karriker L**, Patience J. 2015 Comparison among gilts, physical castrates, entire males, and immunological castrates in terms of growth performance, nitrogen and phosphorus retention, and carcass iodine value. *Journal of Animal Science*. 93(12):5702-5710.
53. Pittman J**, Myers G, Stalder K, **Karriker L**. 2015. Effect of fenbendazole on shedding and embryonation of *Ascaris suum* eggs from naturally infected sows. *Journal of Swine Health Production*. 23(5):252–263.
52. Day D**, Sparks J**, **Karriker L**, Stalder K, Wulf L, Zhang J, Kinyon J, Stock M, Gehring R, Wang C, Ellingson J, Coetzee J. 2015. Impact of an experimental PRRSV and *Streptococcus suis* coinfection on the pharmacokinetics of ceftiofur hydrochloride after intramuscular injection in pigs. *Journal of Veterinary Pharmacology and Therapeutics*. Oct;38(5):475-481.
51. Thomas P**, **Karriker L**, Ramirez A, Zhang J, Ellingson J, Crawford K**, Bates J**, Hammen K, Holtkamp D. 2015. Evaluation of time and temperature sufficient to inactivate porcine epidemic diarrhea virus in swine feces on metal surfaces. *Journal of Swine Health and Production*. 23(2):84-90.
50. Pairis-Garcia M**, Johnson A, Stalder K, Abell C**, **Karriker L**, Coetzee J, Millman S. 2015. Behavioral evaluation of analgesic efficacy for pain mitigation in lame sows. *Animal Welfare*. 24: 93-99.

49. Pairis-Garcia M**, Johnson A, Abell C**, Coetzee J, **Karriker L**, Millman S, Stalder K. 2015. Measuring the efficacy of flunixin meglumine and meloxicam for lame sows using a GAITFour pressure mat and an embedded microcomputer-based force plate system. *Journal of Animal Science*. 93(5):2100-10.
48. Pairis-Garcia M**, Johnson A, Kukanich B, Wulf L, Millman S, Stalder K, **Karriker L**, Coetzee J. 2015. Pharmacokinetics of meloxicam in mature swine after intravenous and oral administration. *Journal of Veterinary Pharmacology and Therapeutics*. Jun;38(3): 265-270.
47. Mohling C**, Johnson A, Coetzee J, **Karriker L**, Stalder K, Abell C**, Tyler H, Millman S. 2014. Evaluation of mechanical and thermal nociception as objective tools to measure painful and non-painful lameness phases in multiparous sows. *Journal of Animal Science*. 92: 3073-3081.
46. Mohling C**, Johnson A, Coetzee J, **Karriker L**, Abell C**, Millman S, Stalder K. 2014. Kinematics as objective tools to evaluate lameness phases in multiparous sows. *Livestock Science*. 165:120-128.
45. Bates J**, **Karriker L**, Stock M, Pertzborn K, Baldwin L, Wulf L, Lee C, Wang C, Coetzee J. 2014. Impact of transmammary-delivered meloxicam on biomarkers of pain and distress in piglets after castration and tail docking. *PLoS One*. Dec 1;9(12):e113678. doi: 10.1371/journal.pone.0113678.
44. Dzikamunhenga RS, Anthony R, Coetzee J, Gould S, Johnson A, **Karriker L**, McKean J, Millman ST, Niekamp SR, O'Connor AM. 2014. Pain management in the neonatal piglet during routine management procedures. Part 1: a systematic review of randomized and non-randomized intervention studies. *Animal Health Research Reviews*. 15(1):14-38.
43. O'Connor A, Anthony R, Bergamasco L, Coetzee J, Gould S, Johnson A, **Karriker L**, Marchant-Forde J, Martineau G, McKean J, Millman S, Niekamp S, Pajor E, Rutherford K, Sprague M, Sutherland M, von Borell E, Dzikamunhenga R. 2014. Pain management in the neonatal piglet during routine management procedures. Part 2: Grading the quality of evidence and the strength of recommendations. *Animal Health Research Reviews*. 15: 39-62.
42. Sadler L**, **Karriker L**, Johnson A, Schwartz K, Widowski T, Wang C, Millman S. 2014. Swine respiratory disease minimally affects responses of nursery pigs to gas euthanasia. *Journal of Swine Health and Production*. 22(3):125-133
41. Abell C**, Johnson A, **Karriker L**, Rothschild M, Hoff S, Sun G, Fitzgerald R**, Stalder K. 2014. Using classification trees to detect lameness in sows induced lame using a transient lameness model. *Animal*. 8(6): 1000-9.
40. Pairis-Garcia M**, Johnson A, Stalder K, **Karriker L**, Coetzee J, Millman S. 2014. Measuring the efficacy of flunixin meglumine and meloxicam for lame sows using nociceptive threshold tests. *Animal Welfare*. 23:219-229.
39. Pairis-Garcia M**, Johnson A, Millman S, Stalder K, **Karriker L**. 2014. Effects of yohimbine, an alpha 2-antagonistic reversal agent, on physiological recovery parameters of anesthetized sows. *Journal of Swine Health and Production*. 22:16-23.
38. Pairis-Garcia M**, Johnson A, Bates J**, Stock M, Stock L, Brommel A, Stalder K, **Karriker L**. 2014. Development and refinement of a technique for short-term intravascular ear catheter placement in mature sows. *Laboratory Animals*. 48:78-81.

37. Van Engen N, Stock M, Engelken T, Vann R, Wulf L, **Karriker L**, Busby W, Lakritz J, Carpenter A, Bradford B, Hsu W, Wang C, Coetzee J. 2014. Impact of oral meloxicam on circulating physiological biomarkers of stress and inflammation in beef steers after long distance transportation. *Journal of Animal Science*. 92:498-510.
36. Weimer S**, Johnson A, Fangman T, **Karriker L**, Tyler H, Stalder K. 2014. Comparison of nursery pig behavior assessed using human observation and digital-image evaluation methodologies. *Journal of Swine Health Production*. 22(3):116-124.
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Boehringer Ingelheim PRRS Research Award Board grant proposal reviewer, 2006-2009 (25).

Canadian Veterinary Journal manuscript reviewer, 2013 (1), 2016 (1), 2017 (1)

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Irish Veterinary Journal manuscript reviewer, 2015 (1).

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Journal of Swine Health and Production manuscript reviewer, 2006 – 2012 (7), 2014 (1), 2019 (2), 2020 (1).

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42. Meiszberg A, Johnson A, Stalder K, **Karriker L**. 2010. To determine the active and inactive hours for sound sows before a chemically induced lameness. Iowa State Animal Industry Report. R2550.
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37. Stalder K, Miller D, **Karriker L**. 2008. Chinese version of the Conformation, structural soundness guidelines poster. Insert In: Pigs Today, Beijing, China.
36. Stalder K, Miller D, **Karriker L**. 2008. Chinese version of the Feet and leg disorders poster. Insert In: Pigs Today, Beijing, China.
35. Stalder K, Miller D, **Karriker L**. 2008. Chinese version of the Reproductive trait selection guidelines poster. Insert In: Pigs Today, Beijing, China.
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33. Stalder K, Johnson A, **Karriker L**. Early exit from the herd: Economic implications. Proceedings of the Feet First Symposium, Zinpro Corporation. Minneapolis, Minnesota. April 2008.
32. Layman L, **Karriker L**, Bradley E. 2008. Investigation of bacterial load in multi-species laboratory workspaces. Iowa State University Animal Industry Report. AS Leaflet R2252.
31. **Karriker L**, Patterson A**, Apley M, Imerman P, Layman L. 2008. Determination of serum sodium salicylate concentrations in swine resulting from administration through water medication systems. Iowa State University Animal Industry Report. AS Leaflet
30. Layman L, Yaeger M, **Karriker L**. 2008. Health challenges in Midwestern “niche” pork production systems. Iowa State University Animal Industry Report. AS Leaflet R2254.
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28. Jackson C, Johnson A, Stalder K, **Karriker L**. 2008. Drinking behavior of seven-week-old pigs when water is either withheld or provided ad libitum. Iowa State University Animal Industry Report. AS Leaflet R2336.
27. Berry N**, Johnson A, Baas T, Stalder K, **Karriker L**, Hill J. 2008. Loading gantry versus traditional chute for the finisher pig: effect on welfare parameters at time of marketing. Iowa State University Animal Industry Report. AS Leaflet R2338.
26. Berry N**, Johnson A, Baas T, **Karriker L**, Stalder K. 2008. Loading gantry versus traditional chute for the finisher pig: effect on transportation and packing plant losses. Iowa State University Animal Industry Report. AS Leaflet R2339.

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24. Bowden J**, **Karriker L**, Stalder K, Johnson A. 2008. Scan sampling techniques for behavioral validation in nursery pigs. Iowa State University Animal Industry Report. AS Leaflet R2342.
23. Nikkila M, Stalder K, Mote B, Lampe J, Thorn B, Rothschild M, Johnson A, **Karriker L**, Serenius T. 2008. Heritabilities and genetic correlations of body composition and structural soundness traits in commercial gilts. Iowa State University Animal Industry Report. AS Leaflet R2349.
22. Johnson A, Layman L, **Karriker L**, Holt W**, Stalder K, deRodas B. 2008. How does the addition of gel at the time of vaccination affect overall nursery pig performance? Iowa State Animal Industry Report. AS Leaflet R2358.
21. Berry N**, Johnson A, Baas T, Stalder K, **Karriker L**, Hill J. 2007. Pig-friendly loading chute minimizes loading stressors. National Hog Farmer. Penton Media, Inc. Minneapolis, MN 55425. 52(no.12):24-25.
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19. Fitzgerald R**, Stalder K, **Karriker L**, Johnson C, Layman L. 2007. The economic analysis of feeding cull sows to heavier weights. Iowa State University Animal Industry Report. AS Leaflet R2240.
18. Leuschen B, **Karriker L**, Ramirez A, Halbur P. 2007. Dairy production immersive knowledge experience (D-PIKE) and swine production immersive knowledge experience (SPIKE). Iowa State University Animal Industry Report. AS Leaflet R2251
17. Knauer M**, Stalder K, Baas T, **Karriker L**. Factors influencing sow culling. Record of Proceedings of the 31st National Swine Improvement Federation Conference and Annual Meeting. Nashville, Tennessee. December 6, 2006.
16. Stalder K, Fitzgerald R**, Johnson C, **Karriker L**. Feeding cull sows: When is it a money-making proposition? Proceedings of PORK Academy. National Pork Board. Clive, Iowa. June 7, 2006.
15. **Karriker L**, Layman L, Ramirez A, Miller D, Stalder K, Holden P, DeMirjyn A. Sow body condition scoring guidelines (Poster) in National Hog Farmer Blueprint Edition. Number 42 in a series. National Hog Farmer. Prism Business Media. Overland Park, Kansas. April 15, 2006.
14. Johnson C, Stalder K, **Karriker L**. Sow condition scoring guidelines. National Hog Farmer Blueprint Edition. Number 42 in a series. National Hog Farmer. Prism Business Media. Overland Park, Kansas April 15, 2006. pgs. 7-9.
13. Knauer M**, **Karriker L**, Stalder K. Understanding why sows are culled. National Hog Farmer Blueprint Edition. Number 42 in a series. National Hog Farmer. Prism Business Media. Overland Park, Kansas. April 15, 2006. pgs. 27-29.

12. Fitzgerald R**, Stalder K, **Karriker L**. Optimizing cull sow value. National Hog Farmer Blueprint Edition. Number 42 in a series. National Hog Farmer. Prism Business Media. Overland Park, Kansas. April 15, 2006. pgs. 30-37.
11. Fitzgerald R**, Stalder K, **Karriker L**, Johnson C, Layman L, Baas T, Mabry J. 2006. Cull sows can be worth feeding. National Hog Farmer. Prism Business Media. Overland Park, Kansas. 51(no.12):11-12.
10. Stalder K, Knauer M**, **Karriker L**, Baas T, Johnson C, Serenius T, Layman L, Mabry J, McKean J. 2006. A closer look at why sows are culled. National Hog Farmer. Prism Business Media. Overland Park, Kansas. 51(no.12):16-17.
9. Stalder K, **Karriker L**. 2006. National Pork Board Proposal #04-127 Final Research Report: Evaluation of sows at harvest to determine the incidence of abnormalities that could lead to culling of breeding herd females.
8. **Karriker L**. 2006. National Pork Board Proposal #05-172 Final Research Grant Report: Development of a Condition Scoring Guide – using live animals.
7. **Karriker L**, Ramirez A. 2006. National Pork Board Proposal #04-187 Mid Term Report: Investigation of factors impacting the rate of PRRSV transmission in nursery and finisher pig flows and assessment of transmission rate and timing on economic performance.
6. Stalder K, **Karriker L**. 2006. National Pork Board Proposal #05-081 Mid Term Report: Association of compositional, structural soundness, and health with the ability of a commercial line of young sows to successfully complete parity one.
5. **Karriker L**. 2006. National Pork Board Proposal #04-034 Final Report: Determination of serum concentrations resulting from administration of high and low dose orally administered acetylsalicylic acid and sodium salicylate in swine through water medication systems.
4. **Karriker L**, Destajo R**. PRRSV Negative Herds: A Survival Analysis. The 2005 Nebraska Swine Report. Pgs 3-5.
3. **Karriker L**. 2006. National Pork Board Proposal #05-172: Interim Grant Report Development of a condition scoring guide using live animals.
2. **Karriker L**. 2005. National Pork Board Proposal #04-034 Interim Report: Determination of serum concentrations resulting from administration of high and low dose orally administered acetylsalicylic acid and sodium salicylate in swine through water medication systems.
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Non Refereed Publications Reporting Existing Knowledge (49)

“***” Denotes a student that Dr. Karriker mentored, served as major professor, served as graduate committee member, or served as professional (DVM) curriculum advisor during the study.

Targeting Veterinary Health Professionals and Scientists (35)

35. "PRRS Strain 1-4-4" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. February 2021.
34. "Viral Myelitis" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. December 4, 2019.
33. "Tracheitis Management" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. April 4, 2020.
32. "Coccidiosis" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. September 3, 2020.
31. "Lameness and Arthritis" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. October 13, 2020.
30. "Porcine Astrovirus Type 3" Webinar. Swine Health Information Center, American Association of Swine Veterinarians and Swine Medicine Education Center. <https://www.swinehealth.org/#>. December 20, 2020.
29. **Karriker L**. Drug therapy for Escherichia coli scours. In the Proceedings of the Winter Meeting of the Iowa Veterinary Medical Association. February 10, 2016.
28. **Karriker L**. Treatment decision trees. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 28, 2016. Pgs 411-414.
27. **Karriker L**. The regulatory aspects of swine medicines. In Proceedings of the Annual Meeting of the American Association of Swine Veterinarians Pre-conference Seminar #10 Swine Medicine for Students. February 28, 2016. Pgs 3-8.
26. Johnson A, **Karriker L**, Stalder K. How are behavioral measures being used to assess swine well-being during research and commercial practice? In the Proceedings of the George A. Young Swine Health and Management Conference. South Sioux City, Nebraska. August 13, 2009.
25. **Karriker L**, Bowden J**. PRRS virus vaccination strategies and efficacy. Proceedings of the George A. Young Swine Health and Management Conference. South Sioux City, Nebraska. August 13, 2009.
24. **Karriker L**. Session 5528: Current swine disease trends. Conference Notes CD of the 145th American Veterinary Medical Association Meeting. New Orleans, Louisiana. July 19-22, 2008.
23. **Karriker L**. Session 5529: Interpreting swine diagnostics: tissue testing. Conference Notes CD of the 145th American Veterinary Medical Association Meeting. New Orleans, Louisiana. July 19-22, 2008.
22. **Karriker L**, Johnson J, Schwartz K. Session 5530: Interpreting swine diagnostics: serology. Conference Notes CD of the 145th American Veterinary Medical Association Meeting. New Orleans, Louisiana. July 19-22, 2008.

21. **Karriker L.** Session 5541: PCVAD: successful management. Conference Notes CD of the 145th American Veterinary Medical Association Meeting. New Orleans, Louisiana. July 19-22, 2008.
20. **Karriker L.** Session 5543: PRRSV: management strategies. Current swine disease trends. Conference Notes CD of the 145th American Veterinary Medical Association Meeting. New Orleans, Louisiana. July 19-22, 2008.
19. **Karriker L.** Decision trees. In the Proceedings of the American Association of Swine Veterinarians Annual Meeting Preconference Seminar on Applications for Improving Evidence-Based Decisions: Projects, Processes, Quality Improvement. March 3, 2008. Pgs 39-43.
18. **Karriker L.** Gantt charts. In the Proceedings of the American Association of Swine Veterinarians Annual Meeting Preconference Seminar on Applications for Improving Evidence-Based Decisions: Projects, Processes, Quality Improvement. March 3, 2008. Pgs 44-49
17. **Karriker L, Baum D, Schwartz K.** Outcome-based Diagnostics—Practice and Capabilities: Tools for Better Evidence. In the Proceedings of the 15th Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 8, 2007. Pgs 21-26.
16. **Stalder K, Karriker L, Serenius T, Knauer M**.** Influencing length of productive life of the sow herd. In the Proceedings of the American Association of Swine Veterinarians Annual Meeting Reproduction: Optimizing Genetics, Health, and Production Pre-conference Seminar. Orlando, Florida. 2007. Pgs 13-17.
15. **Karriker L.** Field Experiences with porcine circovirus associated disease (PCVAD). In the Proceedings of the American Association of Swine Veterinarians Annual Meeting. Student Seminar Session. Orlando, Florida. March 3-6, 2007. Pgs 509-510.
14. **Karriker L, Davies P.** “Group Exercise: Troubleshoot the first two parts of a proposal outlined to develop interventions for the abscess problem in butts and loins.” A.D. Leman Conference Pre-conference Session CD: Field Trial Design and Population Testing Protocols. September 24, 2006.
13. **Stalder K, Knauer M**, Serenius T, Karriker L, Rothschild M, Mote B, McKean J, Baas T, Mabry J.** Sow Longevity: what we know. In the Proceedings of the 15th Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 9, 2006. Pgs 48-51.
12. **Karriker L.** Field trial design, implementation, and analysis. In the Proceedings of the American Association of Swine Veterinarians Annual Meeting. Kansas City, Missouri. 2006. Pgs 293-298.
11. **Karriker L.** Ten lessons learned in first year at Iowa State University. In proceedings of the 13th Annual Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 10-11, 2005. Pgs. 89-94.
10. **Karriker L.** PRRSV Eradication: Depopulation and Roll-over Techniques. In Proceedings of the 46th Annual George A. Young Swine Health and Management Conference. Sioux City, Nebraska. August 11, 2005. Pgs. 6-15.

9. **Karriker L**, Patterson A**. Conducting practical and real on farm experiments. In the Proceedings of the American Association of Swine Veterinarians Annual Meeting Pre-Conference Workshop “Applied Swine Medicine.” Toronto, Canada. March 4, 2005.
8. **Karriker L**. Traditional and non-traditional means to acclimate gilts. Proceedings of the Annual Meeting of the American Association of Swine Veterinarians Pre-Conference Workshop “Gilt Development”. Toronto, Canada. March 4, 2005.
7. **Karriker L**, Patterson A**. Edema disease – systems approach. Proceedings of the 12th Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, IA. November 11, 2004. pgs 29-34.
6. **Karriker L** “PRRSV Update” Proceedings of the Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.
5. **Karriker L**. Antibiotic Selection and Management in Swine. Proceedings of the Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.
4. **Karriker L**. Case Report - Stray Voltage and Power Failure. Proceedings of the Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.
3. **Karriker L**. Field experiences with PMWS control and management. Proceedings of the A. D. Lemman Swine Conference. University of Minnesota. St. Paul, Minnesota. September 20, 2004. pgs 97-101.
2. **Karriker L**. New Trends in PRRSV Diagnosis. Proceedings of the 37th Semana Nacional de Ganado Porcino (SEPOR). Lorca (Murcia) Spain. September 15, 2004
1. **Karriker L**. Considerations for developing an swine influenza vaccination program. Proceedings of the Iowa Veterinary Medical Association Winter Meeting. Ames, Iowa. 2004

Targeting Lay Audiences and Pork Industry Decision Makers (14)

14. Thomas J, Keener L, **Karriker L**. Selected protocols ensure sow health, pig health. National Hog Farmer Blueprint. Number 47 in a series. Penton Media. Minneapolis, Minnesota. October 15, 2008.
13. Stalder K, Johnson A, **Karriker L**. 2008. A new look at sow longevity. Gene Link, National Swine Registry, West Lafayette, IN 47906, pp. 20-22.
12. Stalder K, **Karriker L**, Johnson A. 2008. Understanding sow mortality. Benchmarking: Setting Higher Standards in Pork Production, 2007 Summary of the PigCHAMP Database. Farms.com Media & PigCHAMP, Ames, IA 50011, 3(no.1):12-14.
11. Stalder K, Fitzgerald R**, Johnson A, **Karriker L**, Meisinger D. A summary of the 13th Discover Conference on sow productive lifetime. Record of Proceedings of the 32nd National Swine Improvement Federation Conference and Annual Meeting. Kansas City, MO. December 6, 2007.
10. **Karriker L**. Field experiences with PCVAD control and management. Proceedings of the Fortieth Annual Virginia Pork Industry Conference. Franklin, Virginia. January 31, 2007.

9. Stalder K, **Karriker L**, Johnson A. Breeding Herd Mortality: Have We Become Complacent? PORK Magazine. January 2007.
8. Stalder K, Knauer M, **Karriker L**. 2007. Are sows being culled for the right reasons? National Hog Farmer. Penton Media, Inc. Minneapolis, MN 55425. 52(no.4): 26-30.
7. **Karriker L**, Stalder K. Culling criteria for sows and gilts. Proceedings of PORK Academy. National Pork Board. Clive, Iowa. June 7, 2006.
6. **Karriker L**, Stalder K. Neutralizing chronic, acute disease challenges. National Hog Farmer Blueprint Edition. Number 42 in a series. National Hog Farmer. Prism Business Media. Overland Park, Kansas. April 15, 2006. pgs. 23-26.
5. **Karriker L**, Destajo R**. PRRSV Negative Herds: A Survival Analysis. The 2005 Nebraska Swine Report. Pgs 3-5.
4. **Karriker L**. Production performance drivers and sources of variation in growing pig production. Proceedings of the Pfizer Animal Health 10th Annual Swine Seminar. Galena, Illinois. June 15-17, 2005.
3. **Karriker L**. Pros and cons of closed herds concepts. National Hog Farmer. October 15, 2004. pgs 28-33.
2. **Karriker L**, Halbur P. Draft of Manual for Best practices for Maintenance of Health in Alternative Pork Production. Presented to Practical Farmers of Iowa involved in RAF project. Mason City, Iowa. September 29, 2004.
1. Swine Flu 2004 – A Teleconference Roundtable. Sponsored by Schering Plough and recorded Dec 10, 2003.

Invited Presentations Providing Continuing Education Credit (82)

International Conferences (18)

18. “Challenges and Opportunities in modern swine veterinary education” 2020. 51st Annual Meeting of the American Association of Swine Veterinarians. Opening Session. Atlanta, Georgia. March 7 – 10.
17. “Public perceptions and influence on antimicrobial use.” 2018. Ontario Association of Swine Veterinarians, 2018 Fall Conference, Hockley Valley, Ontario, Canada.
16. “Hard won lessons from clinical cases and research.” 2018. Ontario Association of Swine Veterinarians, 2018 Fall Conference, Hockley Valley, Ontario, Canada.
15. Crucial to criminal: The range of perspectives on antimicrobial use in pork production.” The 49th Annual Meeting of the American Association of Swine Veterinarians, San Diego, CA. March 6, 2018.
14. “Treatment decision trees” Session #3 Antibiotic Use. Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 29, 2016.
13. “The regulatory aspects of swine medicines” Seminar #10 Swine Medicine for Students. Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016.

12. "Digital photography tips" Pre-Conference Seminar #1 AASV's Got Talent. Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 29, 2016.
11. "The pharmacology of lameness treatment" Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. February 28- March 2, 2015.
10. "Meloxicam use in pain management" Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. February 28- March 2, 2015.
9. "Production, Health and Biosecurity Training by the Swine Medicine Education Center" Sponsored by Elanco and Cargill China. April 22-26, 2013. Nanjing, China.
8. "Evidence based practices: Myths and applications." Howard Dunne Memorial Lecture. Annual Meeting of the American Association of Swine Veterinarians. 2011. Phoenix, Arizona.
7. "U.S. Swine Industry Overview" USDA Foreign Agriculture Service Biosecurity in Swine Production Meeting. Hotel Park, Novi Sad, Serbia. August 29, 2006.
6. "The Top Ten Reproductive Problems in U.S. Swine Herds and Potential Solutions" USDA Foreign Agriculture Service Biosecurity in Swine Production Meeting. Hotel Park, Novi Sad, Serbia. August 29, 2006.
5. "Culling Considerations for Sows and Gilts" USDA Foreign Agriculture Service Biosecurity in Swine Production Meeting. Hotel Park, Novi Sad, Serbia. August 29, 2006.
4. "Testing and Sample Size Considerations for Accurate Herd Diagnosis" USDA Foreign Agriculture Service Biosecurity in Swine Production Meeting. Hotel Park, Novi Sad, Serbia. August 29, 2006.
3. "Case Study of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) Circulation in an Integrated Commercial Production System" USDA Foreign Agriculture Service Biosecurity in Swine Production Meeting. Hotel Park, Novi Sad, Serbia. August 29, 2006.
2. "Porcine Reproductive and Respiratory Syndrome Update and TGE Case Study" XIII DIA DEL PORCICULTOR. Obregon, Sonora, Mexico. December 13, 2004.
1. "New Trends in PRRSV Diagnosis". 37th Semana Nacional de Ganado Porcino (SEPOR). Lorca (Murcia) Spain. September 15, 2004

National Conferences (44)

44. "Future of Antibiotic Use and Antibiotic Resistance" 2019 ISU James D. McKean Swine Disease Conference, November 7–8, 2019.
43. "Bacterial Disease Challenges: Perspectives from Swine Veterinarians" Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria. Washington, DC. May 3, 2017.
42. "Combating AMR: Perspectives from the American Association of Swine Veterinarians" Presidential Advisory Council on Combating Antibiotic Resistant Bacteria. Washington, DC. May 3, 2017.
41. "Antemortem sampling of urine and joints" 2016 ISU James D. McKean Swine Disease Conference. Ames, Iowa. November 3-4, 2016.

40. "Residue depletion profile of ampicillin trihydrate in cull sows" 23rd Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 5-6, 2015.
39. "Antimicrobial use in swine." Bayfield County, Wisconsin County Commissioners Meeting. September 10, 2015.
38. "Pharmacokinetics and Efficacy of NSAIDs in Swine." ISU Swine Disease Conference for Swine Practitioners. November 14, 2014. Ames, Iowa.
37. "Impact of Porcine Reproductive and Respiratory Syndrome on Antimicrobial Pharmaceuticals." ISU Swine Disease Conference for Swine Practitioners. November 14, 2013. Ames, Iowa.
36. "Food Animal Population Pharmacology" 30th Society of Veterinary Hospital Pharmacists Annual Meeting. Chicago, Illinois. June 2011.
35. "Case-based Food Animal Pharmacology Training Techniques and the Role of the Swine Medicine Education Center" 30th Society of Veterinary Hospital Pharmacists Annual Meeting. Chicago, Illinois. June 2011.
34. "PRRS virus vaccination strategies and efficacy" George A. Young Swine Health and Management Conference. South Sioux City, Nebraska. August 13, 2009.
33. "Session 5528: Current swine disease trends." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
32. "Session 5529: Interpreting swine diagnostics: tissue testing." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
31. "Session 5530: Interpreting swine diagnostics: serology." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
30. "Session 5531: Health challenges in niche production." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
29. "Session 5532: Evidence-based practice techniques." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
28. "Session 5533: Evidence-based case study 1." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
27. "Session 5534: Evidence-based case study 2." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
26. "Session 5535: Evidence-based case study 3." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
25. "Session 5536: Lesions compromising sow longevity." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
24. "Session 5537: Manipulating transport for improved well-being." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.

23. "Session 5538: Value of mycoplasma vaccination: an evidence based review." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
22. "Session 5539: Tips for treatment success." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
21. "Session 5541: PCVAD: successful management." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
20. "Session 5542: PRRSV: research update." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
19. "Session 5543: PRRSV: management strategies." The 145th American Veterinary Medical Association Annual Convention. July 19-22, 2008. New Orleans, Louisiana.
18. "A tool for planning: Gantt charts. A tool for implementing: decision trees." Annual Meeting of the American Association of Swine Veterinarians. Pre-conference Seminar 3: Applications for Improving Evidence Based Decisions. San Diego, California. March 3, 2008.
17. "Evidence Based Practice." American Association of Swine Veterinarians Advanced Techniques Summer Workshop. Ames, Iowa. June 4, 2007.
16. "The contribution and utility of case studies in evidence-based medicine." Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. March 3, 2007.
15. "Field Experiences with porcine circovirus associated disease (PCVAD)". Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. March 6, 2007.
14. "Iowa State University College of Veterinary Medicine Swine Expertise, SPIKE, and Innovations in Curriculum." 2007 Swine Educators In-Service Training. Kansas City, Missouri. January 4, 2007.
13. "Student Opportunities at ISU and Integrated System Case Study." Kansas State University Student AASV Meeting. Manhattan, Kansas. November 15, 2006.
12. "Aspirin and sodium salicylate: Valuable or just cheap?" A.D. Lemman Conference Review of National Pork Board Funded Research. St. Paul, Minnesota. September 24, 2006.
11. "Conducting Successful Field Research." A.D. Lemman Conference Pre-conference Session: Field Trial Design and Population Testing Protocols. St. Paul, Minnesota. September 24, 2006.
10. "Case Study Group Exercise: Abscesses in loins." A.D. Lemman Conference Pre-conference Session: Field Trial Design and Population Testing Protocols. September 24, 2006.
9. "Field Trial Design and Implementation." American Association of Swine Veterinarians Annual Meeting. Kansas City, Missouri. March 6, 2006.
8. "Aspirin, PRRS, Radio Frequency Identification, and 3,000 Cull Sows: Current ISU Field Research." North Carolina Veterinary Conference Swine Session. Raleigh, North Carolina. November 3, 2005.
7. "Conducting successful field research." A. D. Lemman Swine Conference Pre-Conference Seminar: Applied Epidemiology. St. Paul, Minnesota. September 18, 2005.

6. "PRRSV Eradication: Depopulation and Roll-over Techniques." 46th Annual George A. Young Swine Health and Management Conference. Sioux City, NE. August 11, 2005.
5. "Conducting practical and real on-farm experiments" 2005 Annual Meeting of the American Association of Swine Veterinarians. Toronto, Ontario, Canada. March 6, 2005.
4. "Applied Swine Medicine Roundtable Q & A." 2005 Annual Meeting of the American Association of Swine Veterinarians Pre-conference seminar. March 6, 2005.
3. "A review of traditional and non-traditional means of acclimatizing the developing gilt" 2005 Annual Meeting of the American Association of Swine Veterinarians Pre-conference seminar "Gilt Development." Toronto, Ontario, Canada. March 5, 2005.
2. "Field Investigation of PRRSV Circulation in Nursery and Finisher Pigs – Preliminary data" UMN Veterinary Epidemiology Short Course, Friday Seminar. University of Minnesota College of Veterinary Medicine. June 4, 2004.
1. "Developing a Finisher Training Course" – Cases for the Large System Veterinarian, Pre-conference Workshop, A.D. Lemman Swine Conference, 2001

State and Local Conferences (20)

20. "Drug therapy for Escherichia coli scours." Winter Meeting of the Iowa Veterinary Medical Association. Altoona, Iowa. February 10, 2016.
19. "Clinical Assessment Tools for Practitioners." 18th Annual Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 5, 2010.
18. "ISU Student Introductions and Swine Programming." 18th Annual Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 5, 2010.
17. "Iowa Code 717: The Veterinarian's Role in Animal Cruelty & Neglect" Production Animal /Livestock Breakout Session Co-Moderator. Iowa Veterinary Medical Association Winter Conference. February 10-11, 2009. Ames, Iowa.
16. "The Good (new techniques!), The Bad (problems!), and The Ugly (old paradigms!)." Iowa Veterinary Medical Association Winter Conference. February 10-11, 2009. Ames, Iowa.
15. "Taking new tools (and new practitioners!) to the field." The 16th Iowa State Swine Disease Conference for Swine Practitioners. November 6, 2008. Ames, Iowa.
14. "Evidence Based Medicine and Systematic Reviews in Swine Practice" Boehringer Ingelheim Technical Services Training. Ames, Iowa. January 11, 2007.
13. "Introduction of SPIKE (Swine Production Immersive Knowledge Experience) and Swine-interest Students. The 14th Swine Disease for Practitioners Conference. Ames, Iowa. November 9, 2006.
12. "Breeding Herd Lamenesses – Classifications and Clinical Diagnostics." The 14th Swine Disease for Practitioners Conference. Ames, Iowa. November 9, 2006.
11. "Basic Considerations for Water Based Therapeutics, Aspirin and Sodium Salicylate: Valuable or just cheap?" Iowa Veterinary Medical Association Annual Conference. Ames, Iowa. September 28, 2006.
10. "Ten Lessons Learned in First Year at Iowa State." 13th Annual Swine Disease Conference for Swine Practitioners. Ames, Iowa. November 10-11, 2005.

9. "Production performance drivers and sources of variation in growing pig production" Pfizer Animal Health 10th Annual Swine Seminar. Galena, Illinois. June 15-17, 2005. 6.25 hours CE from Iowa Board of Veterinary Medicine.
8. "Edema Disease – A systems approach" 12th Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, IA. November 11, 2004.
7. "Field Study of PRRSV Virus Persistence in Nursery and Finisher Populations of Commercial Swine Herds" 12th Annual Iowa State Swine Disease Conference for Swine Practitioners. Ames, IA. November 12, 2004.
6. "PRRSV Negative Herds: A survival analysis." AASV Annual Meeting, Des Moines, Iowa. March 6, 2004.
5. "Considerations for Developing an SIV Vaccination Program". IVMA Winter Meeting. Ames, IA. 2004
4. "Field Experiences with PMWS control and management" A. D. Leman Conference. University of Minnesota. St. Paul, Minnesota. September 21, 2004.
3. "PRRSV Update" Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.
2. "Antibiotic Selection and Management in Swine" Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.
1. "Case Report - Stray Voltage and Power Failure" Iowa Veterinary Medical Association 122nd Annual Meeting – Swine Session. Ames, Iowa. September 23, 2004.

Presentations, Posters and Abstracts (161)

“**” Denotes a student that Dr. Karriker mentored, served as major professor, served as graduate committee member, or served as professional (DVM) curriculum advisor during the study.

161. **Karriker L** "Best Practices for Ractopamine Elimination" Iowa Pork Producers Association 2020 Iowa Pork Regional Conferences – Sheldon, Iowa February 17, 2020.
160. **Karriker L** "Best Practices for Ractopamine Elimination" Iowa Pork Producers Association 2020 Iowa Pork Regional Conferences – Audubon, Iowa February 18, 2020.
159. **Karriker L** "Best Practices for Ractopamine Elimination" Iowa Pork Producers Association 2020 Iowa Pork Regional Conferences – Ames, Iowa February 19, 2020.
158. **Karriker L** "Best Practices for Ractopamine Elimination" Iowa Pork Producers Association 2020 Iowa Pork Regional Conferences – Washington, Iowa February 20, 2020.
157. **Karriker L** "Best Practices for Ractopamine Elimination" Iowa Pork Producers Association 2020 Iowa Pork Regional Conferences – Nashua, Iowa February 21, 2020.
156. **Karriker L**. SMEC Update to VDPAM Advisory Board: 10-30-2020. Iowa State University College of Veterinary Medicine.
155. **Karriker L**, Rovira A, Torremorell M, Spronk G and Painter T. 2021. Episode 1144: At The Meeting. Honoring Dr. Bob Morrison: Salmonella control: Keeping antimicrobials available. Rise of A New Salmonella Strain in Swine and Human Health. <http://www.atthemeetingonline.com/episodes>. Accessed February 19, 2021.

154. Massey N**, Mahadev-Bhat S, Shrestha D, Kondru N, Kanthasamy A, **Karriker L**, Charavaryamath C. 2020. Suppression of cGAS-STING pathway or inhibition of mitochondrial NOX-2 reduces organic dust induced mitochondrial DNA driven inflammation in microglia. Society of Toxicology's Annual Conference 2020. March 15-19, 2020, Anaheim, CA.
153. Mahadev Bhat S, Shrestha D, Massey N**, **Karriker L**, Kanthasamy A, Charavaryamath C. 2020. Transcriptomic and Ultrastructural Evidences Indicate anti-HMGB1 Antibodies Rescue Organic Dust Induced Mitochondrial Dysfunction. American Thoracic Society's (ATS) Annual Meeting, May 16-20, 2020, Philadelphia, PA.
152. Kittrell H**, Mochel J, Brown J**, Schneider B, **Karriker L**. 2019. Does topical flunixin meglumine have potential to treat pain in pre-wean piglets? Proceedings of the A. D. Leman Swine Conference, September 2019, Minneapolis, MN.
151. Shrestha D, Mahadev-Bhat S, Massey N**, Santana C, Rumbeiha W, **Karriker L**, Charavaryamath C. 2019. Hydrogen Sulfide Exposure Modulates Innate Responses to Lipopolysaccharide and Organic Dust. *Am J Respir Crit Care Med* 2019;199:A2770
150. Todd B, De Mille C**, Gerrard S, Helm E, Karriker L, Gabler N. PSVI-15 Effects of Vitamin B12, Sodium Salicylate, and electrolyte supplementation on alleviating Porcine Reproductive and Respiratory Syndrome symptoms in nursery pigs. July 2019. *Journal of Animal Science* 97(Supplement_2):209-209. DOI: 10.1093/jas/skz122.368
149. Lane K**, Stalder K, Harmon J, **Karriker L**, Johnson A. PSII-11 Comparison of multiple heat sources in the farrowing house: Effect on production and energy efficiency. *Journal of Animal Science*, Volume 97, Issue Supplement_2, July 2019, Pages 232–233, <https://doi.org/10.1093/jas/skz122.409>.
148. **Karriker L**. Antibiotic Use in Pork, Sustainability Issues and Challenges with Pork Production. BSR (Business for Social Responsibility) Restaurant Roundtable for Sustainability (RRS). December 6, 2019. Los Angeles, CA.
147. Mehling S, Henao-Diaz A, Maurer J, Kluber E, Stika R, Rademacher C, Zimmerman J, Giménez-Lirola L, Wang C, Ramirez A, **Karriker L**, Holtkamp D, Goodell C, Main R, Linhares D, Baum D. 2019. Wean-to-Finish Pig Death Patterns Associated with Stocking Density and Profitability Differences. Pig Welfare Symposium, Nov 13 – 15, Minneapolis, MN. Poster 7.
146. Mahadev-Bhat S, Massey N, **Karriker L**, Singh B, Charavaryamath C. 2019. Organic Dust Extract Induces Nucleocytoplasmic Translocation of High Mobility Group Box 1 (HMGB1) in Human Airway Epithelial Cell Lines. *Am J Respir Crit Care Med* 2018;197:A2570
145. Akin E**, Johnson A, Brown J**, Jass C, Kittrell H**, Millman S, Ross J, Skoland K, Stalder K, Stinn J, **Karriker L**. 2019. Providing handling tools to move non-ambulatory pigs on-farm. Proceedings of the 53rd Congress of the International Society for Applied Ethology. Bergen, Norway. August 5, 2019. p.228
144. Massey N**, Charavaryamath C, Shrestha D, **Karriker L**, Hahadev-Bhat S. 2019. Organic Dust Induces Mitochondrial and ER Stress Response in Activated Microglia. Abstract Submission ID #4847. Neurobiology Session. American Association of Anatomists. April 2019. Orlando, Florida.

143. Macedo N, Canning P**, **Karriker L**, Mora J, Clavijo M. 2018. *M. hyosynoviae* diagnostics: What experimental data can tell us about field strains. Proceedings of the A. D. Lemna Swine Conference, September 2018, Minneapolis, MN. p. 43
142. Macedo N, Arruda B, Canning P**, **Karriker L**, Rosener D and Clavijo MJ. 2018. Clinical presentation and detection of two *Mycoplasma hyosynoviae* field isolates in experimentally challenged pigs - II-195. Poster and Abstract presented at the International Pig Veterinary Society Meeting in Chongqing, China. June 11 to June 14, 2018.
141. Mahadev-Bhat S, Massey N, Karriker L, Singh B, Charavaryamath C. 2018. Organic dust extract induces nucleocytoplasmic translocation of HMGB1 in human airway epithelial cell line. A105 DUST AND PARTICULATE MATTER EXPOSURE / Poster Discussion Session / Sunday, May 20/2:15 PM-4:15 PM / Room 6 E (Upper Level) - San Diego Convention Center.
140. Canon A, Breuer M, Skoland K, Forseth A**, Brown J**, Hayman K**, **Karriker L**. (Writers). (2018). Lameness in Swine Video. National Veterinary Accreditation Program.
139. Anthony, S**, Brown, J**, Madson, D., Klemesrud, K**, Rohde, M**, Akin, E**, Radke, S., Skoland, K., Breuer, M., Forseth, A**, Canning, P**, Hayman, K**, Kittrell, H**, **Karriker, L**. (2018). Characterization of skin variations that may influence transdermal absorption of topical drugs. In the Proceedings of the 49th Annual Meeting of the American Association of Swine Veterinarians, San Diego, CA. March 6, 2018. Pgs 303-304.
138. Klemesrud, K**, Forseth, A**, Akin, E**, Anthony, S**, Rohde, M**, Breuer, M., Skoland, K., Brown, J**, Kittrell, H**, Canning, P**, Thomas, P., Rademacher, C., **Karriker, L**. 2018. Determining the necessity of peri-processing antimicrobial use in piglets. In the Proceedings of the 49th Annual Meeting of the American Association of Swine Veterinarians, San Diego, CA. March 5, 2018. Pgs. 323.
137. Rohde, M**, Brown, J**, Anthony, S**, Hayman, K**, Canning, P**, Klemesrud, K**, Forseth, A**, Kittrell, H**, Breuer, M., Skoland, K., Rademacher, C., **Karriker, L**. (2018). Evaluation of BoarBetter® pheromone in optimizing swine reproductive efficiencies in two commercial breeding farms. In the Proceedings of the 49th Annual Meeting of the American Association of Swine Veterinarians, San Diego, CA. March 5, 2018. Pgs. 330-331.
136. Mahadev-Bhat S, Charavaryamath C, Massey N**, **Karriker L**, Singh B. Swine Barn Dust Extract Induces Nuclear to Cytoplasmic Translocation of HMGB1 in Human Airway Epithelial Cell Line BEAS-2B. 2018 CVM Faculty Research Symposium Poster Session, Friday, January 5th, 2018, Scheman Building, Ames, Iowa.
135. Thompson V**, Canning P**, Murray D, O'Brien K**, Nickel M**, Forseth A**, Brown J**, Warner R**, Breuer M, Skoland K, Madson D, Viall A, **Karriker L**. 2017. Utility of antemortem joint fluid collection for diagnostic investigations of infectious lameness. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 272.
134. Lauterbach N**, Hoogland M, Cline G, Nickel M**, **Karriker L**. 2017. Developing urine catheterization in sows for calcium and phosphorus analysis. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 263.

133. Girard T**, Stricker A, Kelly J, **Karriker L**. 2017. Determining the effect of agitation of chlortetracycline stock solutions on chlortetracycline concentrations at different areas of water delivery systems. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 254.
132. Warner R**, Brown J**, Dohlman T, Krull A, Ji J, Skoland K, Breuer M, Thompson V**, Nickel M**, O'Brien**, Forseth A**, Canning P**, **Karriker L**. 2017. Evaluation of a novel antibiotic-free extender utilizing short-term hypothermic storage. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 243.
131. O'Brien K**, Canning P**, Skoland K, Madson D, Nickel M**, Thompson V**, Breuer M, Warner R**, Forseth A**, Brown J**, **Karriker L**. 2017. Refinement of field anesthesia protocols for joint fluid collection in healthy swine. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 246-247.
130. Canning P**, Ruston C**, Madson D, Bates J, Skoland K, Davenport J**, Wang C, Chen Q, Zhang J, **Karriker L**. 2017. Effect of direct fed microbial, Calsporin (Bacillus subtilis C-3102) on enteric health in nursery pigs after challenge with porcine epidemic diarrhea virus (PEDV). In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 167.
129. Baker K, Mowrer C, Zhang J, Ramirez A, **Karriker L**, Holtkamp D. 2017. Evaluation of a peroxygen based disinfectant to inactivate porcine epidemic diarrhea virus in swine feces on metal surfaces under freezing conditions. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 53.
128. Nickel M**, Skoland K, Forseth A**, Brown J**, Thompson V**, Breuer M, Warner R**, O'Brien K**, Canning P**, Thomas P, Hoogland M, Lauterbach N**, **Karriker L**. 2017. Development and validation of ante-mortem urine collection techniques for gilts and sows. In the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. February 25, 2017. Pg 63-64.
127. KC L**, Sutherland MA, Johnson AK, Shepherd TA, Xin H, Stalder KJ, **Karriker LA**, Lay DC, Millman ST, 2017. Aversion to argon-induced hypoxia in pigs using approach-avoidance and conditioned place avoidance paradigms. 13th ISAE North American Regional Meeting, Ames, IA, May 12-13, 2017.
126. KC L**, Johnson AK, Shepherd TA, Stinn JP, Xin H, Stalder KJ, **Karriker LA**, Sutherland MA, Lay Jr. DC, Millman ST, 2016. Aversion to CO₂ gas in pigs using approach-avoidance and conditioned place avoidance paradigms. ASAS Midwestern Section and ADSA Midwest Branch, Scientific Sessions and Business Meeting, Des Moines, IA, Mar. 12-16, 2016. Oral presentation.
125. Canning P**, Skoland K, Bates J**, Kaptur R, Rosener D, Rajewski S, Coetzee J, Ramirez A, **Karriker L**. Concentration of tylvalosin in the synovial fluid and plasma of pigs when administered orally in the drinking water for five consecutive days at label dose. Abstract #27 in the Proceedings of the A. D. Leman Swine Conference, September 2016, Minneapolis, MN.

124. Canning P**, Ruston C**, Madson D**, Skoland K, Davenport J**, Wang C, Chen Q, Zhang J, Bates J**, **Karriker L**. Effect of direct fed microbial *Bacillus subtilis* C-3102 on enteric health in nursery pigs after challenge with porcine epidemic diarrhea virus (PEDV). Proceedings of the 24th IPVS Congress, Dublin. Ireland – June 7-10, 2016. IPVS2016-1176.
123. Holtkamp D, Gerardy K, Mowrer C, Linhares D, Rademacher C, Canning P**, Canon A**, **Karriker L**. Epidemiological investigation of cases of senecavirus A in United States breeding herds. Proceedings of the 24th IPVS Congress, Dublin. Ireland – June 7-10, 2016. IPVS2016-890.
122. Rademacher C, Linhares D, Pineyro P, Canning P**, Holtkamp D, **Karriker L**. Shedding patterns detected by PCR in sows and piglets of Senecavirus A from an infected US swine breeding herd. Proceedings of the 24th IPVS Congress, Dublin. Ireland – June 7-10, 2016. IPVS2016-1156.
121. Danielson A**, Azarpajouh S, Baker R, Rademacher C, Dickson J, Johnson A, **Karriker L**, Stalder K. *Enterobacteriaceae* counts from livestock truck wash stations offering different service levels located in Iowa. Presentation at the Midwest Animal Science Meeting, Des Moines, Iowa. Wednesday March 16, 2016.
120. Canning P**, Schwartz K, **Karriker L**. Keeping pigs on their feet. Swine Welfare AASV Pre-Conference Seminar Proceedings, Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pgs 22-23
119. Ruston C**, Canning P, Davenport J, Bates J, Skoland K, Lauterbach N, Mahan-Riggs E, **Karriker L**. Comparison of macro-gut health parameters in PEDV positive and negative nursery pigs. Poster 31. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pg 274.
118. Stewart C**, Schwartz T, Bates J**, Canon A**, Canning P**, **Karriker L**, Skoland K, Ramirez A. Disease surveillance in an all-natural system. Poster 35. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pgs 279-280.
117. Lauterbach N**, Canon A**, Bates J**, Skoland K, Ruston C**, Ellingson J, Thomas P**, Hershberger N, Te Grotenhuis T, Hayman K, Breuer M, Buckley A, Koethe A, Gerardy K, Holtkamp D, **Karriker L**. See one, do one, teach one: increasing swine disease response and diagnostic capacity by using a pyramid-based training technique to get boots on the ground. Poster 27. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pg 268.
116. Davenport J**, Canning P**, Bates J**, Ruston C**, Skoland K, Canon A**, Madson D, Wang C, **Karriker L**. The effect of sampling strategy on porcine epidemic diarrhea virus (PEDV) associated gut morphology and immunohistochemistry scores. Poster 18. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pg 256.
115. Mainquist-Whigham C**, **Karriker L**, Bates J**, Gehring R, Coetzee J. Residue depletion profile of ampicillin trihydrate in cull sows. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. New Orleans, Louisiana. February 28, 2016. Pg. 103.

114. KC L**, Johnson A, Karriker L, Shepherd T, Stinn J, Xin H, Sutherland M, Lay D, Millman S. Assessment of aversion to different concentrations of CO₂ gas by weaned pigs using an approach-avoidance paradigm. Poster presented at 2015 Humane Slaughter Association International Symposium in Zagreb, Croatia. July 16, 2015.
113. Canon A**, Gerardy K, **Karriker L**, Holtkamp D. Outbreak Investigation Program – A Systematic Approach to PRRS Outbreak Investigations. Joint session of the North American PRRS Symposium and NC229. Chicago, Illinois. December 6, 2015.
112. **Karriker L**. Antimicrobial use in swine. Bayfield County, Wisconsin County Commissioners Meeting. September 10, 2015.
111. Nix M**, Thomas P**, Renner E**, Ellingson J, Bates J**, Canning P**, Canon A**, Daly L**, Mainquist C**, Hammen K, **Karriker L**. Comparison of Florvio and amoxicillin impacts on clinical diarrhea and average daily gain. Poster 37. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. February 28, 2015.
110. Bates J**, Crawford K**, **Karriker L**, Main R, Christianson E, Marsteller T, Hammen K, Thomas P**, Ellingson J, Harmon K, Abate S, Vangroenweghe F. The use of antemortem tracheobronchial mucus collection technique for *Mycoplasma hyopneumoniae*. Poster 66. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. February 28, 2015.
109. Bates J**, Canning P**, Hammen K, **Karriker L**, Kaptur R, Rosener D, Coetzee J. Detection of Tylvalosin (Aivlosin) in synovial fluid from nursery pigs. In the Proceedings of the 2014 Allen D. Leman Swine Conference. p.67.
108. Sparks J**, Day D**, **Karriker L**, Wulf L, Zhang J, Bates J**, Ellingson J, Gehring R, Coetzee J. Vaccination mitigates the effect PRRSv has on the pharmacokinetics of ceftiofur crystalline free acid in pigs. Poster 9. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Orlando, Florida. February 28, 2015. Pg 275.
107. Day D**, Sparks J**, **Karriker L**, Coetzee J, Zhang J, Kinyon J, Ellingson J, Stock M, Van Engen N, Lawrence J. Pharmacokinetic assessment of ceftiofur hydrochloride in pigs challenged with porcine reproductive and respiratory syndrome virus and *Streptococcus suis*. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. March 1-4, 2014. Dallas, Texas.
106. Luna K**, Johnson A, **Karriker L**, Shepherd T, Stinn J, Xin H, Sutherland M, Lay D, Millman S. Assessment of aversion to different concentrations of CO₂ gas by weaned pigs using an approach-avoidance paradigm. Human Slaughter Association (HAS) International Symposium 2015: Recent advances II. Zagreb Croatia 16th – 17th July 2015.
105. Anthony R, Bergamasco L, Coetzee J, Dzikaunhenga R, Gould S, Johnson A, **Karriker L**, Marchant-Forde J, Martineau G, McKean J, Millman S, Niekamp S, O'Connor A, Pajor E, Rutherford K, Sprague M, Sutherland M, Von Borell E, 2014. Pain management in piglets during management procedures. A systematic review and GRADE process. 6th International Conference on the Assessment of Animal Welfare at Farm and Group Level, Clermont-Ferrand, France, Sept. 3-5, 2014. (Abstract & Presentation)

104. Thomas P**, **Karriker L**, Ramirez A, Zhang J, Ellingson J, Holtkamp D. Evaluation of time and temperature sufficient to inactivate porcine epidemic diarrhea virus in swine feces on metal surfaces. Proceedings of the 23rd IPVS Congress, Cancun, Mexico – June 8-11, 2014. p. 249
103. “On-Farm Necropsies – Who, What, Where, When and Why” today for the December session of the PorkBridge 2014.
102. Sparks J, Day** D, **Karriker L**, Wulf L, Zhang J, Bates J**, Gehring R, Coetzee J. Vaccination mitigates the negative impact PRRSv infection has on the pharmacokinetics of ceftiofur crystalline free acid in pigs. Proceeding of the Conference of Research Workers in Animal Diseases. Chicago, Illinois. December 2014. Abstract number 138.
101. Sparks J, Day D**, Coetzee J, Olsen C, Zimmerman J, **Karriker L**. Comparison of chlortetracycline concentrations in feed, plasma, and oral fluids with pathogen MICs in treated commercial swine sites. Proceedings of the American Association of Swine Veterinarians Annual Meeting. Poster Session: Veterinary Students. Dallas, Texas. March 2014. pp 365-366.
100. Sadler L**, **Karriker L**, Schwartz K, Johnson A, Widowski T, Wang C, Sutherland M, Millman S. 2014. Are severely depressed neonatal pigs resistant to gas euthanasia? College of Veterinary Medicine Faculty Research Day, Iowa State University, January 8, 2014.
99. Day D**, Sparks J**, **Karriker L**, Coetzee J, Zhang J, Kinyon J, Ellingson J, Stock M, Van Engen N, Lawrence J. 2013. Pharmacokinetic assessment of ceftiofur hydrochloride in pigs challenged with porcine reproductive and respiratory syndrome virus and *Streptococcus suis*. Poster 3. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. San Diego, California. March 4, 2013. Pgs 265-266.
98. Buckley A**, Ellingson E, **Karriker L**, Hocker J. Field results of a modified vaccination protocol with Pfizer’s Fostera PRRS vaccine. Poster 21. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. San Diego, California. March 4, 2013. Pgs 301-302.
97. Borgmann M**, Ellingson E, **Karriker L**, Hocker J. A comparison of the relative reduction in PCV2 viremia. Poster 19. Abstract in the Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. San Diego, California. March 4, 2013. Pgs 297-298.
96. “Advancing a Swine Medicine Education Center of Excellence and Delivering a National Curriculum to United States Veterinary Students.” College of Veterinary Medicine Faculty Research Symposium and Poster Session - January 8, 2013. Ames, Iowa.
95. Frana T, Beahm A**, Fligg D, Kinyon J, Wardyn S, Hanson B, Layman L, **Karriker L**, Ramirez A, Smith T. Detection of methicillin-resistant *Staphylococcus aureus* in swine oral fluids. 3rd ASM-ESCMID Conference on Methicillin-resistant Staphylococci in Animals: Veterinary and Public Health Implications. Poster. Washington, DC. November 7, 2013.
94. McNeil B, Abell C**, Stock J, Millman S Johnson A, **Karriker L**, Stalder K. Measurement time required to detect sow lameness using an embedded microcomputer force plat system. Joint Annual Meeting, American Dairy Science Association, American Society of Animal Science, Indianapolis, Indiana. July 8-12, 2013. Abstract 613.

93. Mohling C**, Johnson A, Abell C**, Coetzee J, Millman S, **Karriker L**, Stalder K. Embedded micro-computer-based force plate as an objective tool to measure painful and non-painful hoof lameness states in multiparous sows. Joint Annual Meeting, American Dairy Science Association, American Society of Animal Science, Indianapolis, Indiana. July 8-12, 2013. Abstract 614.
92. Mohling C**, Johnson A, Stalder K, Abell C**, Coetzee J, Millman S, **Karriker L**. Gait analysis as an objective tool to measure painful and non-painful hoof lameness in multiparous sows. Joint Annual Meeting, American Dairy Science Association, American Society of Animal Science, Indianapolis, Indiana. July 8-12, 2013. Abstract TH177.
91. Pairis-Garcia M**, Millman S, **Karriker L**, Stalder K, Coetzee J, Johnson A. Measuring the efficacy of meloxicam for lame sows using nociception threshold tests. Joint Annual Meeting, American Dairy Science Association, American Society of Animal Science, Indianapolis, Indiana. July 8-12, 2013. Abstract 735.
90. Pairis-Garcia M**, Millman S, **Karriker L**, Stalder K, Coetzee J, Johnson A. Measuring the efficacy of flunixin meglumine for lame sows using nociception threshold tests. Joint Annual Meeting, American Dairy Science Association, American Society of Animal Science, Indianapolis, Indiana. July 8-12, 2013. Abstract 733.
89. Sadler L**, **Karriker L**, Schwartz K, Johnson A, Widowski T, Wang C, Sutherland M, Millman S. Are severely depressed neonatal pigs resistant to gas euthanasia? 2013 Animal Health & Animal Well-being PD Workshop, College Park, Maryland. Oct. 6-8, 2013.
88. Pairis-Garcia M**, Millman S, Coetzee J, **Karriker L**, Kukanich B, Wulf L, Stalder K, Sander S, Johnson A. Pharmacokinetics and efficacy of flunixin meglumine in lame sows using pressure algometry. 2013 Animal Health & Animal Well-being PD Workshop, College Park, MD, Oct. 6-8, 2013.
87. Sadler L**, **Karriker L**, Johnson A, Wang C, Widowski T, Millman S. Effects of depression score on welfare implications of CO₂ and argon gas euthanasia of piglets. Proceedings of the 47th International Congress of the ISAE, Florianopolis, Brazil, June 2-6, 2013, p.44 (plenary)
86. Millman S, Johnson A, **Karriker L**, Shearer J, Dewell G, Dewell R, Xin H, O'Connor A, Sutherland M, Coetzee J, Anthony R, Hagen C, Rademacher C, Niekamp S, An examination of argon gas for on-farm anesthesia and euthanasia of livestock. College of Veterinary Medicine Faculty Research Day, Iowa State University, January 8, 2013.
85. Mohling C**, Johnson A, Stalder K, **Karriker L**, Coetzee J, Millman S. Use of thermal and pressure nociception as objective tools to measure painful and non-painful lameness states in multiparous sows. College of Veterinary Medicine Faculty Research Day, Iowa State University, January 8, 2013.
84. Mohling C**, Johnson A, Stalder K, Abell C**, H. Coetzee, Millman S, **Karriker L**. 2013. Gait analysis as an objective tool to measure painful and non-painful hoof lameness in multiparous sows. *Journal of Animal Science*. 91(E1)534.
83. Mohling C**, Johnson A, Abell C**, Coetzee J, Millman S, **Karriker L**, Stalder K. 2013. Embedded micro-computer-based force plate as an objective tool to measure painful and non-painful hoof lameness states in multiparous sows. 91(E1)645.

82. Pairis-Garcia M**, Johnson A, **Karriker L**, Stalder K, Coetzee J, Millman S. 2013. Measuring the efficacy of flunixin meglumine for lame sows using nociceptive threshold tests. *Journal of Animal Science*. 91(E1)689.
81. Pairis-Garcia M**, Johnson A, **Karriker L**, Stalder K, Coetzee J Millman S. 2013. Measuring the efficacy of meloxicam for lame sows using nociceptive threshold tests. *Journal of Animal Science*. 91(E1)690.
80. McNeil B, Abell C**, Stock J, Millman S, Johnson A, **Karriker L**, Stalder K. 2013. Validation of time required for objectively measuring weight distribution utilizing a Force Plate System. *Journal of Animal Science*. 91(E1)645.
79. Weimer S**, Johnson A Stalder J, **Karriker L**, Fangman T. 2012. Willingness to approach (WTA): Live human observation and digital image. *J. Anim. Sci*. 90(E2)19.
78. Pairis M**, Johnson A, Millman S, Stalder K, **Karriker L**. 2012. Return to sensibility: Use of Yohimbine (alpha 2-antagonistic reversal agent) for anesthetized sows. *J. Anim. Sci*. 90(E3)724.
77. Frana T, Beahm A**, Layman L, Kinyon J, **Karriker L**, Ramirez A. Longitudinal study of veterinary students for acquisition of methicillin-resistant *Staphylococcus aureus* associated with exposure to pork production facilities. 2nd ASM-ESCMID Conference on Methicillin-Resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Abstract 53. Washington, DC. September 8-11, 2011.
76. Beahm A**, Kinyon J, Layman L, **Karriker L**, Ramirez A, Frana T. Detection of methicillin-resistant *Staphylococcus aureus* in swine oral fluids. 92nd Conference of Research Workers in Animal Diseases. Chicago, IL. Abstract 045P. December 4-6, 2011.
75. Beahm A**, Kinyon J, Layman L, **Karriker L**, Ramirez A, Frana T. Longitudinal study of veterinary students for acquisition of methicillin-resistant *Staphylococcus aureus* associated with exposure to pork production facilities. 92nd Conference of Research Workers in Animal Diseases. Chicago, IL. Abstract 100. December 4-6, 2011.
74. Stalder K, **Karriker L**, Johnson A. 2010. Sow management and maximizing longevity. Manitoba Swine Seminar. Winnipeg, Manitoba, Canada, February 3-4.
73. McGargill C**, **Karriker L**, Layman L, Cressey N**, Kroeze B**, Siegrist M**, Holt W**. 2010. Developing and refining joint injection technique in sows. In Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Pg. 321.
72. Kroeze B**, **Karriker L**, Layman L, McGargill C**, Siegrist M**, Cressey N**, Holt W**. 2010. Precision and accuracy of six devices assessing core body temperature in sows. In Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Pgs. 315-316.
71. Siegrist M**, **Karriker L**, Layman L. 2010. *Streptococcus suis* case-control study in nursery aged pigs. In Proceedings of the Annual Meeting of the American Association of Swine Veterinarians. Pgs. 343-344.
70. Burrack C**, Johnson A, Parsons R, **Karriker L**, Stalder K, Wang C, Millman S. Investigations into the reliability of a sow lameness scoring tool. Third place poster for Phi

Zeta Gamma poster contest at Iowa State University College of Veterinary Medicine research day. August 13th, 2010.

69. Abell C**, Jones G, **Karriker L**, Johnson A, Stalder K. 2010. "Determining optimal maximum culling parity in commercial swine breeding herds." Iowa Nutritional Feed Seminar. Memorial Union, Iowa State University, Ames, Iowa.
68. Weimer S**, Johnson A, Stalder K, **Karriker L**, Fangman T. "Willingness to Approach." Journal Club, Department of Animal Science Physiology Section. Friday 29th October 2010.
67. Johnson A, Millman S, **Karriker L**, Stalder K, Coetzee J. "Lameness, pain and behavior." Zinpro Feet-First. Sow Lameness Symposium II. Wednesday 1st September 2010. Minneapolis ST. Paul, Minnesota.
66. Stalder K, Johnson A, **Karriker L**. "Selection of gilts - Biomechanics." Zinpro Feet-First. Sow Lameness Symposium II. Wednesday 1st September 2010, Minneapolis, Minnesota.
65. Stalder K, **Karriker L**, Johnson A, Nikkilä M**. 2009. "Sire impacts on sow longevity in commercial breeding herds." American Association of Swine Veterinarians Annual Meeting Pre-Conference Seminar #10 Boar Studs- Disease updates and tools to reduce cost. Dallas, Texas. March 7-10, 2009
64. McGargill C**, Layman L, Kroeze B**, Siegrist M**, Holt W**, Cressey N**, **Karriker L**. A Pilot Study Testing the Feasibility of Injecting Joints in Sows. Poster presented at the College of Veterinary Research Day. August 14, 2009. Ames, Iowa.
63. Kroeze B**, Layman L, Holt W**, McGargill C**, Siegrist M**, Cressey N**, **Karriker L**. Accuracy and Precision of Devices Assessing Core Body Temperature in Sows. Poster presented at the College of Veterinary Research Day. August 14, 2009. Ames, Iowa.
62. Siegrist M**, Layman L, **Karriker L**. Streptococcus suis case-control study in nursery pigs. Poster presented at the College of Veterinary Research Day. August 14, 2009. Ames, Iowa.
61. Cressey N**, **Karriker L**, Layman L, Johnson A, Stalder K. Swine Intensive Studies Laboratory. Poster presented at the College of Veterinary Research Day. August 14, 2009. Ames, Iowa.
60. Johnson, A. K. Stalder K and **Karriker L**. "Identifying and managing the pain associated with lameness." American Association of Swine Veterinarians Advanced Techniques Summer Workshop. Ames, IA. 2009.
59. **Karriker L** "Introduction of swine focused veterinary students." The 16th Iowa State Swine Disease Conference for Swine Practitioners. November 6, 2008. Ames, Iowa.
58. **Karriker L** "Evidence for Practice" New Veterinary Network Monthly Meeting. Ames, Iowa. October 10, 2008.
57. **Karriker L** "Farm and Field Investigation and Case Management Tools." Boehringer Ingelheim Swine Academy. Ames, Iowa. September 8, 2008.
56. **Karriker L** "Pilot field studies of Sirrah Bios PRRSv vaccine." World Pork Expo. Des Moines, Iowa. June 6, 2008.
55. **Karriker L** "PQA+ and health update for TriOak Foods." TriOak Foods, Inc contract grower management meeting. Creston, Iowa. March 19, 2008.

54. **Karriker L** “Iowa State University College of Veterinary Medicine Swine Production Curriculum.” Iowa State University Pre-Veterinary Club Meeting. Ames, Iowa. September 2007.
53. **Karriker L** “The role of preceptorships in delivering the most comprehensive education in food supply veterinary medicine.” Iowa Veterinary Medical Association Annual Meeting. Ames, Iowa. September 2007.
52. **Karriker L** “Evaluation of the accuracy of farm reported data used to make decisions for the breeding herd and grow-finish population.” Iowa Feed and Nutrition Seminar. Ames, Iowa. April 9, 2007.
51. **Karriker L** “Why do I have to sample so many pigs for accurate serology results?” PorkBridge 2 Grow-Finish Educational Series. April 5, 2007.
50. **Karriker L** “Swine postmortem techniques for grow-finish.” PartnerBridge Producer Education Series for South Central Management Services. April 3, 2007.
49. **Karriker L** “Field experiences with PCVAD control and management.” Fortieth Annual Virginia Pork Industry Conference. Franklin, Virginia. January 31, 2007.
48. **Karriker L** “Introduction to evidence based medicine and systematic review.” Boehringer Ingelheim Swine Technical Services Training. Des Moines, Iowa. January 11, 2007.
47. **Karriker L** “NAVLE Board Prep for Swine Topics.” Iowa State University College of Veterinary Medicine. October 24, 2006.
46. **Karriker L** “Air Injection Systems” SwineCast broadcast. www.swinecast.com. October 16, 2006.
45. **Karriker L** “Food Supply Veterinary Services Swine Group.” 2006 IPIC Advisory Board Meeting. Kildee Hall, ISU. December 13, 2006
44. **Karriker L** “Culling Considerations for Sows and Gilts.” PORK Academy. Des Moines, Iowa. June 7, 2006.
43. **Karriker L** “Field Trial Design and Implementation.” SPIKE Summer Seminar Series. Audubon, Iowa. June 1, 2006.
42. **Karriker L** “Why do I have to sample so many pigs for accurate serology results?” PorkBridge Grow-Finish Educational Series. April 5, 2006.
41. **Karriker L** “Managing Nursery and Finisher Pigs from PRRSV Positive Sources.” Whole Hog Health Center Meeting. Hartington, Nebraska. March 1, 2006
40. **Karriker L** “Managing Nursery and Finisher Pigs from PRRSV Positive Sources.” Nebraska Pork Producer Meeting “The Brumm Group” West Point, Nebraska. February 28, 2006
39. **Karriker L** “Better Understanding Trim Loss” with Ken Stalder. Niman Ranch Annual Meeting. February 23, 2006.
38. **Karriker L** “Hemorrhagic Bowel Syndrome (HBS) in Swine.” Nebraska Pork and Livestock Exposition. Columbus, Nebraska. February, 7, 2006
37. **Karriker L** “Swine Practice Opportunities.” Iowa State University Pre-Veterinary Club. Ames, Iowa. January 30, 2006.

36. **Karriker L** “Status of Midwestern Swine Diseases.” Iowa Feed and Nutrition Seminar. Des Moines, Iowa. January 26, 2006.
35. **Karriker L** “Evidence Based Medicine and PCV2/PMWS Diagnosis and Treatment.” BIVI PCV2 Practitioner Round Table.” Banff, Canada. January 20, 2006.
34. **Karriker L** “Aspirin, PRRS, Radio Frequency Identification, and 3,000 Cull Sows: Current ISU Field Research.” Works in Progress VDPAM Seminar. College of Veterinary Medicine. Ames, Iowa. November 14, 2005.
33. **Karriker L** “Continuous quality improvement applied to food animal veterinary education.” Poster presented at the Luncheon Honoring 2005-2006 Miller Faculty Fellows. Iowa State University. October 31, 2005.
32. Destajo, R**, **Karriker, L.** “Project Summary and Diagnostic Interpretation presented to Producer and Ownership of Collaborator Farm used in RFID / AST Project and Results of Antimicrobial comparison.” Glidden, Iowa. September 11, 2005.
31. “Swine Shock and Awe” The inaugural Works in Progress in VDPAM seminar. Iowa State University. Ames, Iowa. August 15, 2005.
30. Schaefer R**, **Karriker L**, Destajo R**, Layman L. Comparison of respiratory disease treatments in swine – poster presented at the Veterinary Summer Scholars Research Program Poster Day. Ames, Iowa. August 12, 2005.
29. Lord S**, **Karriker L**, Kuhn M, Curran B. Evaluation of Lawsonia intracellularis incidence in a commercial swine production system – poster presented at the Veterinary Summer Scholars Research Program Poster Day. Ames, Iowa. August 12, 2005.
28. Hargens T**, **Karriker L**, Destajo R**, Layman L. Analyzing growth curves as a predictive indicator for hemorrhagic bowel syndrome in swine – poster presented at the Veterinary Summer Scholars Research Program Poster Day. Ames, Iowa. August 12, 2005.
27. Frankovich S**, Patterson A, **Karriker L.** Evaluation of sterile swabs for antemortem serum sampling in swine – poster presented at the Veterinary Summer Scholars Research Program Poster Day. Ames, Iowa. August 12, 2005.
26. **Karriker L** “Swine Postmortem Techniques for Grow-Finish Swine.” PorkBridge Producer Presentation. February 9, 2005.
25. **Karriker L** “Porcine Reproductive and Respiratory Syndrome (PRRS) Update.” Iowa Pork Congress. Des Moines, Iowa. January 26, 2005.
24. **Karriker L** “Health Manual: Best practices for Maintenance of Health in Alternative Pork Production”. Practical Farmers of Iowa Annual Conference. Des Moines, Iowa. January 15, 2005.
23. **Karriker L** “Field Study of PRRSV Virus Persistence in Nursery and Finisher Populations of Commercial Swine Herds” 5th Annual Meeting of NC-229: International Workshop on PRRS. Chicago, Illinois. November 13, 2004
22. **Karriker L** “PRRS and Animal Health Update” ISU Extension Field Specialists In-Service Training. October 27-28, 2004. Ames, Iowa State University.

21. **Karriker L** “Designing Field Research Trials” ISU Extension Field Specialists In-Service Training. October 27-28, 2004. Ames, Iowa State University.
20. **Karriker L** “Program Review.” Presented to Boehringer Ingelheim Vet-Medica Technical Service representatives. Ames, Iowa. October 13, 2004.
19. **Karriker L** “Research Review for the Iowa Livestock Health Advisory Committee” ILHAC Committee Meeting. Ames, Iowa. September 8, 2004.
18. **Karriker L** “Presentation of Draft Manual for Best practices for Maintenance of Health in Alternative Pork Production.”. Practical Farmers of Iowa involved in RAF project. Mason City, Iowa. September 29, 2004.
17. **Karriker L** “PRRSV Update” The Mobley Group facilitated by Dr. Tom Baas. Ames, Iowa. September 28, 2004.
16. Patterson A**, **Karriker L**, Apley M. Determination of acetylsalicylic acid and sodium salicylate product stability and achievable serum concentrations under typical nursery conditions. - poster presented at the Veterinary Summer Scholars Research Program Poster Day. Ames, Iowa. August 13, 2004.
15. **Karriker L** “Key Production Drivers From A Veterinarian’s Perspective” Pfizer Marketing In-service Training. Chicago, Illinois. July 28, 2004.
14. **Karriker L** “PRRS 101: Basics of Serology and Diagnostics: Sorting out the ‘Information’.” National Swine Registry Commercial Breeder Program. July 1, 2004. Urbandale, Iowa
13. **Karriker L** “Field Investigation of PRRSV Circulation in Nursery and Finisher Pigs – Preliminary data” NC Swine Vet Meeting, Kenansville, North Carolina. March 24, 2004
12. **Karriker L** “PRRSV Serotherapy” NC Swine Vet Meeting, Kenansville, North Carolina. March 24, 2004
11. **Karriker L** “Reproductive Herd Health Management: Strategies to Minimize Impact of Disease” Regional Meeting - Advanced Swine Reproduction Cherokee, Iowa 2004
10. **Karriker L** “Reproductive Herd Health Management: Strategies to Minimize Impact of Disease” Regional Meeting - Advanced Swine Reproduction Waverly, Iowa 2004
9. **Karriker L** “Understanding and Reducing the Cost of Disease” Iowa Pork Producers Association 2004 Iowa Pork Regional Conferences –Carroll, Iowa 2004
8. **Karriker L** “Understanding and Reducing the Cost of Disease” Iowa Pork Producers Association 2004 Iowa Pork Regional Conferences –Waverly, Iowa 2004
7. **Karriker L** “Understanding and Reducing the Cost of Disease” Iowa Pork Producers Association 2004 Iowa Pork Regional Conferences –Iowa City, Iowa 2004
6. **Karriker L** “Understanding and Reducing the Cost of Disease” Iowa Pork Producers Association 2004 Iowa Pork Regional Conferences –Oelwein, Iowa 2004
5. **Karriker L** “Understanding and Reducing the Cost of Disease” Iowa Pork Producers Association 2004 Iowa Pork Regional Conferences –Iowa Falls, Iowa 2004
4. **Karriker L** “Antibiotic Selection and Management in Swine.” 2004 World Pork Expo. Des Moines, Iowa. June 11, 2004.

3. **Karriker L** “Animal Medicinal Drug Use Clarification Act.” 2004 World Pork Expo. Des Moines, Iowa. June 11, 2004.
2. **Karriker L** “Take the Challenge - Agricultural Careers Question and Answer Panel” 2004 World Pork Expo. Des Moines, Iowa. June 11, 2004.
1. **Karriker L** Swine Flu 2004 – A Teleconference Roundtable. Sponsored by Schering Plough recorded Dec 10, 2003.

Successful Competitive Funding As Primary Investigator (\$1,977,746)

“**” Denotes a student that Dr. Karriker mentored, served as major professor, served as graduate committee member, or served as professional (DVM) curriculum advisor during the study.

20. **Karriker L**, Sahin O, Skoland K, Gorden P, Plummer P. Does Knowledge of Testing Procedures or the Format of Culture and Susceptibility Reports From Veterinary Diagnostic Laboratories (VDLs) Influence Antimicrobial Selection Decisions? American Association of Swine Veterinarians Foundation. 6/1/2019 – 5/31/2020. \$30,000
19. **Karriker L**. Pork Information Gateway – Graduate Stipend at the Swine Medicine Education Center. US Pork Center of Excellence. 8/27/20219 – 6/30/2020. \$20,000
18. **Karriker L**, Holtkamp D, Linhares D, Ramirez A, Rademacher C, Skoland K. Telehealth for Swine Medicine: Tools to Support Shortage Situations, Expand Surge Capacity, and Teach Students with Less Biosecurity Risk. USDA-National Institute of Food and Agriculture. 9/1/2019 – 8/31/2022. \$236,750.
17. **Karriker L**. Determining the Topical and Oral Pharmacokinetics of Flunixin Meglumine in Pre-wean Piglets and Developing Tools for Drug Study in Pre-Wean Piglets”, NPB Project #17-082. 10/1/2017 – 10/1/2018. \$80,997.
16. **Karriker L**. Evaluating the epidemiology, ecology, and biology, of swine viral pathogens. USDA Agriculture Research Service, Cooperative Agreement. 9/15/2015 – 9/14/2018. \$350,000.
15. **Karriker L**, Ross R, Canning P**, Bates J**. Pilot study to develop ante-mortem synovial fluid and synovium sample collection techniques in growing swine and to refine a Mycoplasma hyosynoviae (MHS) arthritis case definition. Iowa Pork Producers Association. May 2015 – April 2016. \$28,540.
14. **Karriker L**, Ellingson J, Bates J**, Hammen K. Building a sustainable capture mechanism for multimedia veterinary cases, a library to maintain them, and implementing them in a hybrid production medicine course. ISU Online Learning Innovation Hub Flipped and Hybrid Course Development Initiative Project. January 2015 – July 2015. \$24,000.
13. **Karriker L**, Coetzee J, Ellingson J. Pilot study to develop translactational analgesia technology for improving swine welfare. Iowa Livestock Health Advisory Council. June 2013-June 2014. \$25,000.
12. **Karriker L**, Coetzee J. A study to correlate procaine penicillin G in tissues, plasma, and oral fluids, of sows and determine environmental transfer of penicillin to untreated sows. Iowa Pork Producers Association. NPB Project # 13-236. 8/1/2013 – 8/1/2015. \$85,537

11. **Karriker L**, Olsen D, and Burkgren T. Advancing a Swine Medicine Education Center of Excellence and Delivering a National Curriculum to U. S. Veterinary Students. USDA, National Institute of Food and Agriculture (NIFA) Higher Education Challenge (HEC) grant. 2012. \$713,849
10. **Karriker L**, Millman S, Stalder K, Johnson A, Coetzee J, Fitzgerald R**, Brooks R. Objective assessment tools and pain management for lame sows. Iowa Pork Producers Association. 2009. \$25,000.
9. **Karriker L**, Stalder K, Fitzgerald R**, Johnson A, Coetzee J. Using objective mechanical and physiologic measurements to build robust producer tools for detecting, scoring and treating lameness in sows. National Pork Board. 2009. \$96,724.88.
8. **Karriker L**, Ramirez A. Swine Medicine Field Techniques Manual. American Association of Swine Veterinarians Foundation Grant. 2008. \$6,000
7. **Karriker L**. Pharmacokinetics and tissue residues of procaine penicillin G in sows after administration of 33,000 IU/kg intramuscularly and by needle-free injection - Part A live animal work. National Pork Board Project #07-235. \$19,461, December 2007, 1 yr.
6. **Karriker L**. "Evaluation of a novel swine production medicine training program from the recruit's perspective." American Association of Swine Veterinarians Foundation. January 31, 2006. \$3,000.
5. **Karriker L**, Johnson A, Stalder K. "Development of a Condition Scoring Guide - using live animals" NPB #05-172 June 22, 2005. \$26,719.
4. **Karriker L**, Munoz-Zanzi C, Zimmerman J. "Investigation of factors impacting the rate of PRRSV transmission in nursery and finisher pig flows and assessment of transmission rate and timing on economic performance". National Pork Board PRRS Initiative. 2005. \$138,076.
3. **Karriker L**, Apley M. National Pork Board Project # 04-034 "Determination of serum concentrations resulting from administration of high and low dose orally administered acetylsalicylic acid and sodium salicylate in swine through water medication systems." 2004. \$23,215.
2. **Karriker L**, Apley M, Carr J. Miller Faculty Fellowship "Continuous Quality Improvement Applied to Food Animal Veterinary Education." 2004. \$25,000.
1. **Karriker L**, Stalder K, Harmon J, Baas T. "Integration and validation of a radio frequency identification system and automatic scale technology for real time correlation of management and disease impacts on the performance of field studies." Funded by Healthy Livestock Initiative Competitive Grants Program. 2004. \$19,877.

**Successful Competitive Funding as Co-Investigator or Collaborator
(\$5,792,535)**

- “***” Denotes a student that Dr. Karriker mentored, served as major professor, served as graduate committee member, or served as professional (DVM) curriculum advisor during the study.
55. Webb S, Baysinger A, Brown J, Coetzee H, Crawford S, DeDecker A, Karriker L, Lechtenberg K, Pairis-Garcia M, Sutherland M, Viscardi A. Identify and Validate Endpoints for Use in Future Clinical Trials Evaluating Drug Efficacy to Control Pain Associated with

- Piglet Castration. US Department of Agriculture National Institute of Food and Agriculture. Funded 2020-12-16. \$650,000.
54. Zaabel P, Webb S, Brown J, Webb P, **Karriker L**, Roth J. Develop, Pilot, and Implement Two National Training Programs to Help Build Personnel Capacity and Increase Efficiency During an FAD Outbreak. USDA-ANIMAL & PLANT HEALTH INSPECTION SERVICE (APHIS). Funded 2019-10-22. \$309,361
 53. Rademacher C, Hayman K, **Karriker L**, Schwartz K, Brown J, Kittrell H, Ruston C. Comparison of Antibiotic Treatment Regimens for Naturally Occurring, Multi-etiology Disease Challenges in Commercial Wean-to-Finisher Facilities. NATIONAL PORK BOARD. Funded Fall 2019. \$69,792
 52. Holtkamp D, **Karriker L**, Mowrer C. Swine Veterinary Internship Program – automed, Inc. Funded Summer 2019. \$11,630
 51. Zimmerman J, Borts D, Gimenez-Lirola L, **Karriker L**, Main R, Wang C. Oral Fluid Sample Size for FAD Detection at Low Prevalence in Large Commercial Pens. NATIONAL PORK BOARD. Funded Summer 2019. \$141,536
 50. Gorden P, Hayman K, Warner R, Engelken T, Brick T, **Karriker L**. Development of a Rapid, Animal-Side Assay to Screen Biological Fluid Samples for the Presence of Violative Drug Residues to Confirm Residue Clearance in Tissues at Slaughter. IOWA BEEF INDUSTRY COUNCIL. Funded Spring 2019. \$40,845
 49. Lyte M, **Karriker L**. Evaluation of Tuft’s “Lab-on-a-Pill.” Department of Defense, Office of Naval Research. 1/28/2019 – 1/27/2020. \$111,044.
 48. Rademacher C, Brown J, Forseth A, **Karriker L**. Impact of antibiotic administration. National Pork Board. 6/1/2017 – 6/1/2018. \$58,328.
 47. Azarpajouh S, Johnson A, Coetzee J, Millman S, **Karriker L**, Stalder K. Building a handling course to document sow locomotion when sows are afflicted with different naturally occurring lameness. National Pork Board. 10/1/2016 – 9/30/2017. \$14,391.
 46. Holtkamp D, Linhares D, **Karriker L**, Ramirez A, Rademacher C. Development and support of an industry rapid response program for epidemiological investigations of emerging, transboundary and endemic swine diseases with known etiology. Swine Health Information Center. 9/1/2016 – 8/31/2018. \$191,353.
 45. Holtkamp D, Rademacher C, **Karriker L**, Linhares D, 2015 Systematic epidemiological investigations of cases of Seneca valley virus in United States swine breeding herds. Swine Health Information Center. June 2015-May 2016. \$24,222
 44. Rademacher C, Holtkamp D, **Karriker L**, Gauger, P. Efficacy of Zoetis PEDV Vaccine in Reducing Clinical Impact of PEDV on Chronically Affected Breeding Farm. Zoetis PEDV Research Award. 2/1/2015-6/1/2017. \$59,078
 43. Johnson A, Azarpajouh S, Calderon-Diaz J, Coetzee J, Millman S, **Karriker L**, Stalder K. Validation of a lameness diagnostic manual and tools for naturally occurring sow lameness. Iowa Department of Justice – Office of the Attorney General. 6/1/2016 – 5/31/2017. \$123,693.

42. Holtkamp D, Rademacher C, **Karriker L**, Linhares D, Gerardy K, Mowrer C. Systematic epidemiological investigations of cases of Seneca valley virus in United States swine breeding herds. Swine Health Information Center. June 2015 - December 2015. \$24,422.
41. Rademacher C, Linhares D, Bates J**, Pineyro P, **Karriker L**, Canon A. Duration of Senecavirus A shedding from clinically affected and non-affected sows and piglets after a breeding herd infection. Swine Health Information Center. October 2015 - March 2016. \$37,500
40. Canning P**, **Karriker L**. Swine Seminar Series Live Broadcast to Veterinary Student Network. American Associate of Swine Veterinarians Foundation. March 2015 – April 2016. \$7,490.
39. Bates J**, **Karriker L**. Blood Collection in Swine. US Pork Center of Excellence: Pork Information Gateway - Video Content. March 2015 – June 2015. \$2,500.
38. Bates J**, **Karriker L**. Environmental Sampling. US Pork Center of Excellence: Pork Information Gateway - Video Content. March 2015 – June 2015. \$2,500.
37. Bates J**, **Karriker L**. Lactation. US Pork Center of Excellence: Pork Information Gateway - Video Content. March 2015 – June 2015. \$2,500.
36. Holtkamp D, Thomas P**, Ramirez A, **Karriker L**, Zhang J. Evaluation of an accelerated hydrogen peroxide disinfectant and barn lime to inactivate porcine epidemic diarrhea virus in swine packing plant dock and unloading areas. National Pork Board. \$43,387. July 1, 2015. 6 months.
35. Holtkamp D, Canon A**, **Karriker L**. Development of PRRS outbreak investigation and data management/analysis program for breeding herds in regional PRRSV projects in Iowa. Iowa Pork Producers Association. \$33,368. June 1, 2015. 1 year, continuation.
34. Holtkamp D, Thomas P**, Ramirez A, **Karriker L**, Zhang J. Evaluation of an accelerated hydrogen peroxide disinfectant to inactivate porcine epidemic diarrhea virus in swine feces on metal surfaces under freezing conditions. National Pork Board. \$41,946
33. Holtkamp D, Thomas P**, Ellingson J, Ramirez A, **Karriker L**, Zhang J. Evaluation of time and temperature sufficient to kill PEDv in swine feces on metal surfaces. National Pork Board. NPB Project #13-227. \$23,294.
32. Coetzee J, **Karriker L**, Bates J**. A study to assess the tissue residue depletion profile of 2 ampicillin trihydrate dosing regimens in cull sows and its association with plasma, oral fluid and urine ampicillin concentrations. National Pork Board. 12/1/2013 – 6/1/2015. \$93,555.
31. Coetzee J, **Karriker L**. Determination of Tylvalosin, the Active Ingredient of Aivlosin®, Concentration in Joint Synovial Fluid of Swine. Pharmgate Animal Health USA Inc. (December 2013 – December 2015). \$14,340.
30. Coetzee J, Johnson A, **Karriker L**, Sander S, Wulf L, Bates J**, Borts D. A study to develop and validate assays to measure and compare four circulating neuropeptides as objective pain biomarkers in piglets. National Pork Board. 12/2013 – 12/2016. \$141,877.
29. Coetzee J, **Karriker L**, Bates J**, Stock M. A study to assess the correlation between plasma, oral fluid and urine concentrations of flunixin meglumine with the tissue residue

- depletion profile in finishing age swine. Iowa Pork Producers Association. (August 2013 – July 2014). \$46,957.
28. Gabler N, **Karriker L**, Patience J, Schwartz K. A longitudinal assessment of the impact PRRSV has on grow-finisher pig tissue accretion and digestibility in commercial production. National Pork Board. 10/1/2012 – 3/1/2014. \$121,478.
 27. O'Connor A, Johnson A, Millman S, McKean J, Coetzee J, **Karriker L**. Proposal to the National Pork Board to host a workshop on pain management for the neonatal piglet. National Pork Board. 8/13/2012 – 2/13/2014. \$123,132.
 26. Millman S, Dewell G, Dewell R, Shearer J, Johnson A, **Karriker L**, Xin H, Sutherland M, Anthony R, and Coetzee J. An examination of argon gas for on-farm anesthesia and euthanasia of livestock. 2011. Agriculture and Food Research Initiative Competitive Grants Program – Foundational Program. 4/1/2012 – 3/31/2017 \$480,564.
 25. Stalder K, Sun G, Hoff S, **Karriker L**, Johnson A, Parsons T. Diagnosis of sow lameness using the microcomputer-based force plate system and pattern recognition methods. 2011. National Pork Board. \$68,069.
 24. Johnson A, Millman S, **Karriker L**, and Stalder K. Developing validated and objective industry ready tools to assess joint pain manifestation and lameness in the sow. 2011. Iowa Pork Producers Association. \$30,794.
 23. Stalder K, Johnson A, **Karriker L**, Patience J. To evaluate the efficacy of a new product in ameliorating osteochondrosis in pigs. US Borax. 2010. \$28,376
 22. Johnson A, Stalder K, **Karriker L**, Holck T, Edler R, Fangman T. Willingness to approach (WTA). Boehringer Ingelheim. 2010. \$17,556.
 21. Butters-Johnson A, Stalder K, Millman S, **Karriker L**, Coetzee J. Developing validated and objective industry-ready tools to assess joint pain manifestation and lameness in the sow. Agricultural and Food Research Initiative Competitive Grants Program – Foundational Program. 4/15/2011 – 4/14/2016. \$700,000.
 20. Millman S, Brooks R, Johnson A, **Karriker L**. Iowa Swine Welfare School: A hands-on education and training program for low stress handling and animal care. Iowa Attorney General's Office Innovative Swine Industry Enhancement Grant Program. 2010. \$28,700.
 19. Millman S, Brooks R, **Karriker L**, Johnson A, Stalder K. A hands-on education and training module for euthanasia in the Iowa Swine Welfare School. 2009. \$14,356.
 18. Johnson A, Millman S, **Karriker L**, Stalder K. Using Objective behavioral measurements to build robust producer tools for detecting, scoring and treating lameness in sows. Iowa Pork Producers Association. 2009. \$20,000.
 17. Johnson A, Stalder K, **Karriker L**. Effect of various nutritional regimens on the nursery pig. 2007. Land O' Lakes, LLC. \$14,160
 16. Meisinger D, **Karriker L**, Harmon J, Baas T, Kliebenstein J. Development of Regional Swine Institutes for academic training of students in swine science. USDA CSREES #2007-38411-18155. 9/15/2007 - 9/14/2011. \$460,787.

15. Johnson A, Stalder K, **Karriker L**. 2007. Evaluation of the relationship between hoof abnormalities and breeding herd female longevity and well-being when housed in gestation and farrowing stalls. National Pork Board #07-051. \$50,253.
14. Holtkamp D, **Karriker L**, Baker B, Morrison B, Polson D. 2006. "An Industry Education Program for Understanding the Risk Factors Associated with PRRSV Breaks in Negative or Naive Breeding Herds" National Pork Board. \$40,000.
13. Meisinger D, Johnson A, Stalder K, **Karriker L**. 2006. Sow Longevity Management Guide – Literature Review. National Pork Board #06-188. \$25,000.
12. Stalder K, **Karriker L**, Johnson A, Baas T. 2006. Association of compositional traits and structural soundness with the ability of commercial line of sows to complete parities four and five. - NPB #06-192. \$43,173.
11. Johnson A, Stalder K, **Karriker L**, Berry N**, Hill J. 2006. Chute design for the finisher pig at the time of load out to market. Iowa State University Vice Provost for Research. \$4,353.
10. Stalder K, **Karriker L**, Rothschild M, Baas T, Mabry J, McKean J. 2006. Association of compositional, structural soundness, and health with the ability of a commercial line of young sows to successfully complete parities two and three. Funding Source: National Pork Board. \$104,510
9. Evans R, **Karriker L**. 2006. The objective assessment of lameness in swine and its correlation to hoof disease in Iowa swine herds. Healthy Livestock Initiative 2006-2007 Grant Program. \$17,860
8. Johnson A, Stalder K, **Karriker L**, Hill J. 2006. Comparison of chute design on the ease of loading finisher pigs. How does this affect their performance, welfare parameters and overall economics to the producer. National Pork Board. \$41,855.
7. Baker R, Dee S, **Karriker L**, Holtkamp D, Polson D. 2005. Quantifying risk and evaluating the relationship between risk score and PRRS-negative herd survival. NRI PRRS Integrated Program. \$95,352.
6. Stalder K, **Karriker L**, Rothschild M, Baas T, Mabry J, McKean J. 2005. Association of compositional, structural soundness, and health with the ability of a commercial line of young sows to successfully complete parity one. NPB Project # 05-41105. \$125,000.
5. Baas T, **Karriker L**, Berry N**, Rothschild M, Stalder K. 2005. Development of a Database to Evaluate Genetics of Health. National Pork Board Project #05-171. \$79,852.
4. Mabry J, Halbur P, Honeyman M, Pirog R, **Karriker L**, McKean J, Kliebenstein J, Dewitt J, Exner D. Enhancing small farm prosperity: an integrated research, education and outreach program for niche pork production. NRI Competitive Grant Proposal # 2005-00659. \$499,000.
3. Zimmerman J, Bryden K, Hoff S, **Karriker L**. 2005. Modeling PRRS virus aerosol transmission within and between farms. National Pork Board PRRS Initiative. \$110,885.
2. Stalder K, **Karriker L**, O'Conner A, McKean J. 2004. Evaluation of sows at harvest to determine the incidence of abnormalities that could lead to culling of breeding herd females. National Pork Board. \$104,552.

1. Schmitt C, **Karriker L**. 2003. Boehringer Ingelheim Vetmedica, Inc. PRRS Research Award: Production of neutralizing antibody against PRRSV and effect on rate and duration of piglet infection. \$25,000.

Training Courses Developed for Producers

Reese D, **Karriker L**, Stender D. Farrowing Caretaker Interest Group for Niche Producers. 3 session distance education course. November 17 – December 15, 2006.

Reese D, **Karriker L**, Levis D. Breeding and Gestation Caretaker Interest Group for Confinement Producers. 3 session distance education course. January 22- February 24, 2006.

Courses Coordinated as Primary Instructor

VDPAM 478A. Swine Medicine Education Center: Swine Production Management and Consultation. Cr. 2. S. Prereq: VDPAM 310. Swine production management and consulting skills within a progressive swine production and management system. Time will be split approximately with half in-class discussion topics of finance and business of the swine industry and half on-farm learning opportunities where students will visit a breeding farm, nursery facility, finishing facility, wean-to-finish facility, gilt developer unit, and a truck wash facility.

VDPAM 478B. Swine Medicine Education Center: Swine Clinical Pharmacology and Treatment Management. Cr. 2. S. Prereq: VDPAM 310. Basic and applied information on swine treatment options, strategies to maximize efficacy, and skills to pursue judicious use of antimicrobials, reproductive interventions, and the entire spectrum of drug therapies. The course emphasizes case based application and decisions and is approximately 30% web-based and 70% on-site including farms of a variety of structures and functions. During the course, students prepare a thorough evaluation of the pharmacologic interventions that may occur on farms and then implement this evaluation in active production facilities to maximize efficacy, compliance and animal welfare as part of a comprehensive judicious use objective.

VDPAM 478C. Swine Medicine Education Center: Swine Emerging Diseases Diagnosis and Management. Cr. 2. S. Prereq: VDPAM 310. Diagnostic tests, methods, approaches, analysis, and evaluation of emerging swine diseases and provide general knowledge of disease elimination and methods to manage herd losses and economic losses due to disease. Two-week, on-site module that combines structured site visits and classroom activities.

VDPAM 310. Intro to Production Medicine. Cr. 2. S. Prereq. Currently enrolled in Vet Med III. The course will describe the role of the veterinarian in the management of animal health and production in dairy and beef cattle herds, beef feedlots and swine herds. The intent of this course is to provide veterinary students with a starting point to understand the principles and techniques that are the basis of food-animal health management programs.

VDPAM 479. Applied Swine Production Medicine. (0-40) Cr. 1-6 each time taken. F,S,SS. Prereq: VDPAM 310. Two week advanced course in swine production medicine with emphasis on herd management, production analysis, and problem solving. Forty hours clinical experience per week. Assignments will include preceptorships with a practicing veterinarian and/or a production unit.

VDPAM 480. Advanced Swine Production Medicine. (15-25) Cr. 2. Repeatable. F,S,SS Prereq: 310. Two week advanced clinical rotation in swine production medicine. Fifteen hours recitation/discussion and 25 hours clinical experience per week. The instructor will lead field

trips as well as problem solving exercises where the student will apply concepts of herd management, production analysis, economic analysis, and disease prevention. Variable amounts of travel to farm sites will be required with the potential for rare to occasional overnight stays.

VDPAM 650. Swine Diagnostic Medicine. Cr. 1-4. SS. Prereq: Permission of instructor. A detailed study of swine diseases emphasizing the pathogenesis and diagnosis of swine respiratory, enteric, reproduction, metabolic, and septicemic diseases.

VDPAM 655. Advanced Swine Production Medicine. Cr. 1-4. S. Prereq: Permission of instructor. Detailed overview of applied techniques used in swine production medicine; production modeling and record analysis, production economics and financial analysis, therapeutic and vaccination strategies, quality control procedures and food safety.

VDPAM 699. Research. Cr. arr. Repeatable.

VDPAM 340. Clinical Foundations I. (0-2) Cr. 1. S. *Prereq:* First year classification in veterinary medicine. Introduction to basic handling, restraint and examination techniques used in a variety of animal and other species encountered in the veterinary curriculum.

VDPAM 478. Introduction to Swine Production Medicine. (15-20) Cr. 2. S. *Prereq:* Fourth-year classification in veterinary medicine. Two week introductory topics in swine production medicine with emphasis on contemporary production practices, monitoring disease, disease prevention, environmental assessment and production records. Fifteen hours recitation/discussion and 20 hours clinical experience per week.

VDPAM 590. Special Topics. Cr. 1 to 3. *Prereq:* Permission of instructor. Topics in medicine, surgery, theriogenology; beef, swine, dairy, or sheep production medicine.

VDPAM 100S Swine Production Medicine Backgrounder On-Line Tutorial
https://webct.ait.iastate.edu/SCRIPT/VDPAM_655_Advanced_Swine_Production_Medicine/scripts/serve_home. Initiated Spring 2006.

AN S 384: Swine Health and Biosecurity (1-0) Cr. 1. Prereq: AN S 225 or AN S 280 and An S 280L. Recommended a course in microbiology. Overview of standard biosecurity protocols and identification of behavior and clinical signs of illness in pigs. Treatment administration and prevention methods. Introduction to immune system function and basic swine disease transmission.

Guest Lectures in Courses

An S 211. Issues Facing Animal Science. (0-2) Cr. 1. F. S. Overview of the factors that define contemporary ethical and scientifically based issues facing animal agriculture. Life skill development (including interactive skills, communication ability, organization, information gathering, and leadership skills) emphasized in the context of issues study.

VDPAM 562X. Applied Diagnostic Technologies and Medicine for Infectious Disease . (3-0) Cr. 3. Veterinary diagnostics and diagnostic medicine for infectious diseases in animal populations, mostly livestock, and clinical applications.

VCS 451. Advanced Junior Surgery Laboratory. (1-6) Cr. 2. S. Prereq: V C S 449. 8 weeks. Continuation of surgical laboratory experience. Techniques and advanced principles learned are applicable to all animal species.

- V C S 311. Veterinarian in Society I. Cr. R. F. Prereq: First-year classification in veterinary medicine. Introduction to the veterinary profession and the various career opportunities available.
- V C S 312. Veterinarian in Society II. (1-0) Cr. 1. S. Prereq: First-year classification in veterinary medicine. A continuation of the Veterinarian in Society series. This course is designed to provide an introduction to the topics of animal behavior, animal welfare, and the human animal bond.
- An S 336. Domestic Animal Behavior and Well-Being. (2-2) Cr. 3. F. Prereq: One course in physiology. Principles of behavior relative to animal care, management and environmental design to ensure animal well-being. Examination of basic neural-endocrine mechanisms involved in the animal's response to its environment. Awareness of animal protection, law and legislation. Methods to objectively assess animal well-being.
- VDPAM 340. Clinical Foundations I. (0-40) Cr. 1. F.S.SS. Prereq: Classification in veterinary medicine. One week course at Great Plains Veterinary Educational Center in Clay Center, Nebraska. An introduction to Food Supply Veterinary Medicine covering industry (beef, dairy, pork, sheep) overviews, production systems, behavior, welfare, handling and restraint and examination techniques, biosecurity, epidemiology and food safety.
- VMPM 378. Case Study IV. (2-0) Cr. 2. S. Prereq: Second-year classification in veterinary medicine. Case-based applied learning that relates to the basic science courses. Emphasis on early integration of basic and clinical science concepts.
- An S 425. Swine Systems Management. (2-2) Cr. 3. F.S. Prereq: An S 225; An S 270; An S 319; An S 331; An S 352; Econ 330 or equivalent recommended. Decisions facing the administrator of a swine enterprise. Financial and production goal identification, problem clarification, and resource allocation to manage the swine enterprise. Computer aided study. Nonmajor graduate credit.
- VDPAM 450 - Disturbances of Reproduction. (Cross-listed with VCS). (4-0) Cr. 4. F. Prereq: Third-year classification in veterinary medicine. General principles of diseases causing disturbances in reproduction.
- VDPAM 411/477. Food Animal Medicine and Surgery. Cr. arr. Repeatable. Prereq: Fourth-year classification in veterinary medicine. Clinical assignment in food animal medicine and surgery.
- VDPAM 456. Veterinary Diagnostic Lab Methods and Applications. (16-0) Cr. 1. F. Prereq: VM2, VM3, or VM4. Case materials are used to develop diagnostic questions and to better understand the value of diagnostic tests. Testing methods and interpretation of diagnostic tests are coupled with sampling strategy and objective assessment of available evidence to provide accurate diagnosis.
- VDPAM 487. Livestock Disease Prevention. (3-0) Cr. 3. F. A survey of diseases of large domestic animals, including discussion of causes, transmission, and control. Designed for students majoring in agricultural sciences.
- V C S 495. Seminar. Cr. R. S. Prereq: Fourth-year classification in veterinary medicine. Seminars and case discussions on selected subjects by staff of the College of Veterinary Medicine and others, including student presentations. Completion of the seminar is required for graduation. Satisfactory-fail only.

- An S 537. Topics in Farm Animal Environmental Physiology, Behavior, Stress, and Welfare. (3-0) Cr. 3. Repeatable. F.S. Prereq: permission of instructor; M.S. or Ph.D. student. Each semester students focus on different topics related to farm animal environmental physiology, behavior, stress, and welfare. Each topic is separate and distinct, and students may enroll in multiple topics. This is an on-line cooperative course involving instructors at Iowa State University, Texas Tech University, and the University of Illinois. Each topic may be taken only one time. A. Animal rights and philosophies; B. Brain mechanisms of stress; C. Measuring behavior and welfare; D. Environmental stressors; E. Stress and the immune system; F. Other related topics
- VDPAM 590. Special Topics. Cr. 1-3. Repeatable. Prereq: Permission of instructor. Topics in medicine, surgery, theriogenology; beef, swine, dairy, or sheep production medicine.
- CS 712 Food Animal Medicine (Kansas State University College of Veterinary Medicine Core Course) Cr. 4. Prereq: Third-year standing in the College of Veterinary Medicine. A study of the etiology clinical signs, diagnosis, treatment and control of diseases which affect cattle, swine, and sheep.
- VDPAM 445. Clinical Medicine II. (Same as V C S 445.) (5-0) Cr. 5. S. Prereq: Third year classification in veterinary medicine. Clinical diagnosis and treatment of diseases of equine, swine, beef, dairy, and sheep.

Veterinary Student Advising

- Gabrielle Doughan. Grand Rounds Presentation. TBD. 2021.
- Lucas Funk. Grand Rounds. 2012.
- Adam Mueller. TGE Outbreak in a Group of Wean to Finish Pigs. 2012.
- Cassandra Jass. Grand Rounds Presentation. Brachyspira Associated Colitis in a Swine Herd. 2012.
- Deanne Day. Merck Summer Scholar. A comparison of joint sampling techniques in swine. 2011.
- Kate Dion. Grand Rounds Presentation. Investigation of Late Swine Finisher Diarrhea. 2011.
- Kristyn White. Grand Rounds Presentation. Bi-Lateral Mandibular Fractures in a Sow. 2011.
- David Dykshorn. Grand Rounds Presentation. An Outbreak of Clostridial Cellulitis and Gas Gangrene in a Swine Finishing Facility. 2010.
- Joshua Ellingson. Grand Rounds Presentation. Swine Tuberculosis. 2010.
- Melissa Hensch. Grand Rounds Presentation Needle Free Technology in Swine. 2009.
- Meredith Johns. Grand Rounds Presentation. Serum Inoculation: One Approach Against PRRSV in Swine. 2009.
- Brett Kroeze. Merck Summer Scholar. A comparison of techniques to measure internal temperature in sows. Summer 2009.
- Clay McGargill. Merck Summer Scholar. Alternative joint injection techniques in sows. Summer 2009.
- Morgan Siegrist. Merck Summer Scholar. Streptococcus suis case control study. Summer 2009.

Josh Bowden. Grand Rounds Presentation. Investigation of umbilical hernias in swine. 2009.

Kate Baker. Grand Rounds Presentation. PRRSV vaccination and suspected reversion to virulence.

Jennifer Christensen. ISU VM 1. Worked on diagnostic submission evaluation project. Summer 2006.

Nicola Jackson. VM4 at Prince Edward Island Veterinary College. Participated in VDPAM 480 rotation and D-lab rotations.

Tyson Dinslage. ISU CVM VM 1. Worked on EBM systematic review process and lab development project. Summer 2006.

Josh Bowden. ISU CVM VM 1. Worked on sow confirmation project (Rob Fitzgerald PhD project). Summer 2006.

María Cristina Venegas Vargas. Graduate Veterinarian, Candidate for Licensure. Completed required practicum. June 2, 2006 – July 31, 2006.

Daniel Santos, Brazil. Summer 2006. Visiting student in Thacker lab.

Eva Jablonski. Visiting veterinary student from North Carolina State University. January 2006.

Valerie Ciesicki. Michigan State Senior Veterinary Student Externship at ISU-CVM. August 1-21, 2005.

Samantha Frankovich, Merck Summer Scholar. Evaluation of Sterile Swabs for Antemortem Serum Sampling in Swine. Summer 2005

Stacy Lord, Merck Summer Scholar. Evaluation of *Lawsonia intracellularis* incidence in a commercial swine production system. Summer 2005.

Travis Hargens, Merck Summer Scholar. Analyzing growth curves as a predictive indicator for hemorrhagic bowel syndrome in swine. Summer 2005.

Ryan Scheafer, Merck Summer Scholar. Comparison of respiratory disease treatments in swine. Summer 2005.

Abby Patterson, Merck Summer Scholar. “Determination of acetylsalicylic acid and sodium salicylate product stability and achievable serum concentrations under typical nursery conditions.” Summer 2004.

Daphne Reeves, DVM. Mississippi State Production Medicine Masters Student Preceptor. Summer 2004.

Faculty advisor. Student Chapter of the American Association of Swine Veterinarians. 2004-2009.

Faculty advisor. VSMART: Veterinary Student Mixed Animal Recruitment Team. 2004-2009.

Faculty contact for 22 additional students / year in professional (DVM) curriculum 2006-present.

Graduate Student Advising as Major Professor (21)

Amanda Victoria Anderson, Master of Science, Veterinary Preventive Medicine. Projected 2021.

Rochelle Warner. Master of Science, Veterinary Preventive Medicine. Completed 2020.

Anna Forseth. Master of Science in Veterinary Preventive Medicine. Completed 2020.

Kristin Hayman (Co-Major). Doctor of Philosophy in Veterinary Preventive Medicine. (currently enrolled)

Heather Kittrell (Co-Major). Doctor of Philosophy in Veterinary Preventive Medicine. Completed 2020.

Justin Brown (Co-Major). Doctor of Philosophy in Veterinary Preventive Medicine. (currently enrolled)

Paisley Canning (Co-Major). Doctor of Philosophy in Veterinary Preventive Medicine. Completed 2017.

Christine Mainquist. Master of Science in Veterinary Preventive Medicine. Completed 2016.

Jessica Bates. Master of Science in Veterinary Preventive Medicine Completed 2015.

Paul Thomas. Master of Science in Veterinary Preventive Medicine. Completed 2015.

Joel Sparks. Master of Science in Veterinary Preventive Medicine. Completed 2015.

Jeremy Pittman. Master of Science in Veterinary Preventive Medicine. Completed 2014.

Deanne Day. Master of Science in Veterinary Preventive Medicine. Completed 2014.

Allison Meiszberg. Master of Science in Veterinary Preventive Medicine. Completed 2013.

Alex Ramirez. Doctor of Philosophy in Veterinary Microbiology. Completed 2011.

Lori Layman. Master of Science in Veterinary Preventive Medicine. Completed 2010.

Tyson Dinslage. Master of Science in Veterinary Preventive Medicine. Completed 2009.

Josh Bowden. Master of Science in Veterinary Preventive Medicine. Completed 2009.

Abby Patterson. Master of Science in Veterinary Diagnostic and Production Animal Medicine. Completed 2007.

Ruby Destajo. Master of Science in Veterinary Preventive Medicine. Completed 2006.

Arturo Oropeza-Munoz. Master of Science in Veterinary Diagnostic and Production Animal Medicine. Completed 2005.

Graduate Student Committees (32)

Kelsey Meyer. Master of Science. Veterinary Preventive Medicine. Projected 2022.

Chelsea Ruston. Master of Science. Veterinary Preventive Medicine. Projected 2021.

Taylor Lindquist. Master of Science. Veterinary Preventive Medicine. Projected 2020.

Ashley Christine Holmes. Master of Science. Veterinary Preventive Medicine. Completed 2020.

Alexandra Buckley. Doctor of Philosophy. Veterinary Microbiology. Completed 2020.

Nyzil Massey. Doctor of Philosophy Candidate. Biomedical Sciences. Projected 2021.

Carson Marie De Mille. Doctor of Philosophy Candidate. Animal Science. Projected 2021.

Karli Lane. Master of Animal Science. Completed 2020.

Amber Marie Danielson. Master of Science in Animal Science. Completed 2017.

Luna KC. Master of Science Candidate. Department of Biomedical Sciences. Withdrew 2018.
Analia Roca. Master of Science in Animal Science. Completed 2016.
Amanda Elsbernd. Master of Animal Science in Animal Science. Completed 2015.
Pairis-Garcia, Monique Danielle. Doctor of Philosophy in Animal Physiology. Completed 2014.
Meghan Fick. Master of Science in Pathology. Completed 2014.
Marja Nikkilä. Doctor of Philosophy in Animal Breeding and Genetics. Completed 2013.
Kathleen Tapper. Master of Science in Biomedical Sciences. Completed 2013.
Larry Sadler. Doctor of Philosophy in Biomedical Sciences, Physiology. Completed 2013.
Caroline Mohling. Master of Animal Science. Completed 2013
Kimberly Schultz (Crawford). Master of Science in Veterinary Microbiology. Completed 2013.
Shawna Weimer. Master of Science in Animal Physiology. Completed 2012.
Joao Carlos Gomes Neto. Master of Science in Veterinary Microbiology. Completed 2012.
Jess Waddell. Master of Science in Veterinary Preventive Medicine. Completed 2010.
Claire Masker. Master of Science in Agricultural Education. Completed 2010.
Mike Mullins. Doctor of Philosophy in Veterinary Microbiology and Preventive Medicine.
Completed 2010.
Robert Fitzgerald. Doctor of Philosophy in Animal Breeding and Genetics. Completed 2008.
Amber Stricker. Master of Science in Veterinary Microbiology and Preventive Medicine.
Completed 2008.
Alex Sang-Ho Cha. Doctor of Philosophy in Veterinary Microbiology and Preventive Medicine.
Completed 2007.
Ramon Miguel Molina. Doctor of Philosophy in Veterinary Microbiology and Preventive
Medicine. Completed 2007.
Nicholas Berry. Doctor of Philosophy in Animal Breeding and Genetics. Completed 2007.
Ciara Jackson. Master of Science in Animal Physiology. Completed 2007.
Pete Thomas. Master of Science in Veterinary Diagnostic and Production Animal Medicine.
Completed 2006.
Mark Knauer. Master of Science in Animal Breeding and Genetics. Completed 2005.

National / International Committees

American Association of Swine Veterinarians Annual Meeting Planning Committee 2020-2021.
AVMA Antimicrobial Resistant Pathogens Affecting Animal Health in the United States
Taskforce – Swine Species Group, 2019.
National Pork Board Antibiotic Working Group. 2018 – present.
Public Health Farm Tour 2019 Presenter.

American Association of Swine Veterinarians Pharmaceutical Issues Committee. 2016 – present.
National Pork Board. Producer/Public Health and Workplace Safety Committee. Advisor. 2016 – present.

American Association of Swine Veterinarians. Elected to represent District 6 on Board of Directors 2015-present.

American Association of Swine Veterinarians Collegiate Activities Committee, Co-Chair, 2008 – 2012.

American Association of Swine Veterinarians Advanced Techniques Summer Workshop Planning Committee. 2006-2008.

13th Discovery Conference on Sow Productive Lifetime Planning Committee. 2006-2007.

American Association of Swine Veterinarians Annual Meeting Planning Committee 2006-2007.

American Association of Swine Veterinarians Communications Committee. 2005-2007.

National Pork Board Sow Longevity Committee 2004-2007.

National Commission on Veterinary Economic Issues – Large Animal Tools. 2004.

National Animal Identification Task Force – Transition Subcommittee. September 2003.

State Committees

Iowa Veterinary Medical Association, Swine Health Committee 2004 – present.

Iowa Veterinary Medical Association, Legislative Committee 2006 – 2012.

University Committees

Morrill Professor Nomination Review Committee 2019-2020.

Animal Science Department Chair Search Committee, 2019

Faculty Senate Appeals Committee: 2019 – 2022.

Ad-Hoc Investigative Committee Case #2020-03

Antimicrobial Resistance Consortium: 2017 – present.

Teaching Awards Review Committee: 2016, 2017

Faculty Senate Curriculum Committee: 2008-2013.

Hoop Structures Group: 2005-2010.

Iowa State University / Smithfield Foods Partnership Discussions. Smithfield, Virginia. October 6-7, 2004

College Committees

Student Chapter of the American Association of Swine Veterinarians. Faculty Advisor. 2017-present.

CVM Professorship Review Committee. 2020.

Dean's Cabinet. College of Veterinary Medicine. 2017 – 2018.

Member, Search Committee for Coordinator of Assessment and Educational Faculty Development position. Hired Dr. Courtney Vengrin, PhD. 2016.

College of Veterinary Medicine Awards Committee. 2014-2018.
College of Veterinary Medicine Curriculum Committee Co-Chair. 2007 – 2013.
Annual Iowa State Swine Disease Conference Planning Committee. 2004 - 2011.
Search Committee. Associate Dean for Academic and Student Affairs. Hired Dr. Claire
Andreasen. 2010.
College of Veterinary Medicine Instruction and Assessment Committee. 2005 – 2008.
Nebraska Proposal Task Force on Curricular Issues, VM3 and VM4. 2005.
Dean’s Budget Reduction Task Force. 2003
Iowa Pork Industry Center Applied Research and Education Projects Grant Committee. 2004.

Department Committees

Post-tenure Review Committee. Member. 2020.
Strategic Planning and Governance Committee. Chair. 2019-2022
Faculty Mentor for Dr. Pat Gorden. 2019-present.
Term Faculty Advancement Review Committee Chair, 2019.
Tenure Track 3rd Year Review Committee Chair, 2016
Member, Search Committee for Clinical Pharmacologist, Presidential High Impact Hire. 2015.
Member, Animal Science Committee to design plans for new Department of Animal Science
Swine Facilities. 2015.
Member, Search Committee for Swine Production Medicine and Entrepreneurship position.
Hired Dr. Daniel Linhares. 2015.
Chair, Search Committee for Swine Extension Veterinarian. Hired Dr. Chris Rademacher. 2015
Member, 3rd Year Probationary Review Committee for Dr. JQ Zhang. 2015
Chair, 3rd Year Probationary Review Committee for Dr. Phil Gauger. 2015
VDPAM Promotion and Tenure Committee 2012 - present
VDPAM Research and Graduate Studies Committee. 2013-2016.
VDPAM Curriculum Committee. 2014-2017.
Dr. Rodney “Butch” Baker Peer Performance Review Committee 2013.
VDPAM Curriculum Committee. Chair. 2006 – 2013.
Search Committee. VDPAM Department Executive Officer and Chair. Hired Patrick G. Halbur.
October 6, 2006.
Search Committee. VDPAM Swine Production Medicine Position. Hired Rodney “Butch”
Baker. September 1, 2006.
Search Committee. VDPAM Swine Production Medicine Position. Hired Derald Holtkamp. July
1, 2006.
Search Committee. University Veterinarian Position. August 2005. Hired Dr. Bruce Leuschen.
Search Committee. VDL Pathologist position. August 2005. Hired Dr. Tanya Opriessnig.

Search Committee. VDPAM Clinician. Hired Dr. James West. June 2005

Search Committee. Diagnostic Pathologist Position. Hired Dr. Christie Loiacono. Spring 2004

Professional Memberships

Iowa Pork Producers Association. 2005 - present.

American Association of Swine Veterinarians. Member: 1995 - present. District 6 Director 2015-2018.

American Veterinary Medical Association, 1999 - present.

Iowa Veterinary Medical Association 2004 – present. Swine Health Committee 2004 – present. Legislative Committee 2005 – present.

Kansas Emergency Management Area VI FAD Preparedness Focus Group, 2003-2004

Guymon Lions Club, 2001-2003.

Mississippi State University Student Association: Senator representing College of Veterinary Medicine, 1998-1999.

MSU Student Chapter of the American Veterinary Medical Association: Intervet representative, Treasurer, 1995-1999.

Rho Chapter Alpha Psi Fraternity: Historian, National Delegate, 1995-1999.

MSU Food Animal Practitioners Group, 1995-1999.

MSU Student Honor Court Representative, 1995-1996.

University of North Carolina Pre-Veterinary Club: Charter member, Vice President, President, 1991-1995.

UNC-CH Pre-Health Professions Peer Advisor, 1994-1995.

Continuing Education

National Pork Board PQA Plus Trainer Certified. 2007, 2017

“Implementing Podcasting in the Classroom” Web Conference sponsored by ISU CELT. November 30, 2005.

“Electronic Portfolios: Enhancing Teaching and Assessment” Webcast sponsored by ISU CELT. December 6, 2005.

Swine Disease Conference for Swine Practitioners. College of Veterinary Medicine, Iowa State University. Ames, Iowa. November 10-11, 2005.

Veterinary Medical Education For Modern Food Systems by The Association of American Veterinary Medical Colleges. October 27-29, 2005. Kansas City Missouri.

Pfizer Animal Health 10th Annual Swine Seminar. Galena, Illinois. June 15-17, 2005. 6.25 hours CE from Iowa Board of Veterinary Medicine

Purdue Swine Veterinary Educators Conference. May 11-12, 2004, Lafayette, IN.

American Association of Swine Practitioners Annual Meeting. 1995 - 2006.

Allen D. Leman Swine Conference. 1999, 2000, 2002-2005.

2004 AVMA Animal Welfare Forum "Sow Housing and Welfare." Hoffman Estates, IL.
November 5, 2004 7.5 hours.

END