CURRICULUM VITAE: MICHAEL E. SPURLOCK

EDUCATION

B.S., Animal Science; University of Missouri
M.S., Nutritional Biochemistry; University of Missouri. Dr. J. E. Savage, Thesis advisor
Ph.D., Nutritional Biochemistry; Collateral Fields in Histology and Molecular Biology; University of Missouri. Dr. Boyd L. O'Dell, Dissertation advisor

GENERAL INFORMATION

a. Professional Appointments:

1) Postdoctoral Research Associate, University of Missouri, 1989-1990.
2) Primary Reviewer, U.S. Food & Drug Administration, Center for Veterinary Medicine, 1990-1991.
3) Postdoctoral Research Associate, Purdue University, 1991-1993.
4) Research Scientist, Purina Mills, Inc., 1993-1994.
5) Senior Research Scientist, Purina Mills, Inc., 1994-1996.
6) Research Manager, Purina Mills, Inc., 1997-1998.
7) Senior Research Manager, Purina Mills, Inc., 1998-1999.
8) Adjunct Assistant Professor, Purdue University, 1995-1999.
9) Assistant Professor, Purdue University, Department of Animal Sciences, 1999-2002.
10) Associate Professor, Purdue University, Department of Animal Sciences, 2002-2005
11) Professor, Purdue University, Department of Animal Sciences, 2005.
12) Associate Professor, Iowa State University, Department of Human Nutrition and Department of Animal Science, 2005-2007
13) Chair, Nutritional Sciences Council, Iowa State University, 2008-2010
14) President, Midwestern Section, American Society of Animal Science, 2008-2009
15) Professor, Iowa State University, Department of Food Science & Human Nutrition and Department of Animal Science, 2008-2015
16) Virginia M. Gladney Professor, Nutritional Sciences, Iowa State University, Department of Human Nutrition and Department of Animal Science, 2010-2013
17) Director, Integrated and Translational Research, Nutrition & Wellness Research Center, Iowa State University, 2010-2013

18) Director of Graduate Education, Nutritional Sciences, Iowa State University, 2013-2014

b. Awards & Honors:

1) National Pork Producers' Council, Innovative Basic Research Award, 1994.
2) National Pork Producers' Council, Innovative Basic Research Award, 1997.
3) School of Agriculture Nominee, David and Lucille Packard Research Fellowship Competition, Purdue University, 2003.
4) ESCOP/ACOP Leadership Fellow, 2003-04.
5) Purdue University, College of Agriculture Outstanding Research Award, 2004.
6) Outstanding Faculty Research Development Award, Iowa State University, 2007
7) Virginia M. Gladney Professorship, Nutritional Sciences, Iowa State University, 2010-2014.
8) American Society of Animal Science, Growth & Development Research Award, 2011

c. Professional Publications in Scientific (peer-reviewed) Journals: (partial list)

1. Ajuwon, K.M., et al., *Interleukin-6 and interleukin-15 are selectively regulated by lipopolysaccharide and interferon-gamma in primary pig adipocytes.* Am J Physiol Regul Integr Comp Physiol, 2004. **286**(3): p. R547-53.
2. Ajuwon, K.M., et al., *Chronic leptin administration increases serum NEFA in the pig and differentially regulates PPAR expression in adipose tissue.* J Nutr Biochem, 2003. **14**(10): p. 576-83.
3. Ajuwon, K.M., et al., *The regulation of IGF-1 by leptin in the pig is tissue specific and independent of changes in growth hormone.* J Nutr Biochem, 2003. **14**(9): p. 522-30.
4. Ajuwon, K.M. and M.E. Spurlock, *Palmitate activates the NF-kappaB transcription factor and induces IL-6 and TNFalpha expression in 3T3-L1 adipocytes.* J Nutr, 2005. **135**(8): p. 1841-6.
5. Ajuwon, K.M. and M.E. Spurlock, *Adiponectin inhibits LPS-induced NF-kappaB activation and IL-6 production and increases PPARgamma2 expression in adipocytes.* Am J Physiol Regul Integr Comp Physiol, 2005. **288**(5): p. R1220-5.
6. Ajuwon, K.M. and M.E. Spurlock, *Direct regulation of lipolysis by interleukin-15 in primary pig adipocytes.* Am J Physiol Regul Integr Comp Physiol, 2004. **287**(3): p. R608-11.
7. Boddicker, N., et al., *Effects of ad libitum and restricted feeding on early production performance and body composition of Yorkshire pigs selected for reduced residual feed intake.* Animal, 2011. **5**(9): p. 1344-53.
8. Boddicker, N., et al., *Effects of ad libitum and restricted feed intake on growth performance and body composition of Yorkshire pigs selected for reduced residual feed intake.* J Anim Sci, 2011. **89**(1): p. 40-51.
9. Boddicker, R.L., et al., *Early lesion formation in colorectal carcinogenesis is associated with adiponectin status whereas neoplastic lesions are associated with diet and sex in C57BL/6J mice.* Nutr Cancer, 2011. **63**(8): p. 1297-306.
10. Boddicker, R.L., et al., *Low-dose dietary resveratrol has differential effects on colorectal tumorigenesis in adiponectin knockout and wild-type mice.* Nutr Cancer, 2011. **63**(8): p. 1328-38.

11. Davis, J.E., et al., *Absence of Tlr2 protects against high-fat diet-induced inflammation and results in greater insulin-stimulated glucose transport in cultured adipocytes.* J Nutr Biochem, 2011. **22**(2): p. 136-41.
12. Davis, J.E., et al., *The c-Jun N-terminal kinase mediates the induction of oxidative stress and insulin resistance by palmitate and toll-like receptor 2 and 4 ligands in 3T3-L1 adipocytes.* Horm Metab Res, 2009. **41**(7): p. 523-30.
13. Davis, J.E., et al., *Tlr-4 deficiency selectively protects against obesity induced by diets high in saturated fat.* Obesity (Silver Spring), 2008. **16**(6): p. 1248-55.
14. Debinski, M., et al., *Intracoronary adiponectin at reperfusion reduces infarct size in a porcine myocardial infarction model.* Int J Mol Med, 2011. **27**(6): p. 775-81.
15. Dilger, A.C., et al., *Myostatin null mice respond differently to dietary-induced and genetic obesity.* Anim Sci J, 2010. **81**(5): p. 586-93.
16. Faris, R.J., et al., *Inflammation in response to n3 fatty acids in a porcine obesity model.* Comp Med, 2012. **62**(6): p. 495-503.
17. Gabler, N.K., et al., *Feeding long-chain n-3 polyunsaturated fatty acids during gestation increases intestinal glucose absorption potentially via the acute activation of AMPK.* J Nutr Biochem, 2009. **20**(1): p. 17-25.
18. Gabler, N.K., et al., *In utero and postnatal exposure to long chain (n-3) PUFA enhances intestinal glucose absorption and energy stores in weanling pigs.* J Nutr, 2007. **137**(11): p. 2351-8.
19. Gabler, N.K., et al., *n-3 PUFA attenuate lipopolysaccharide-induced down-regulation of toll-like receptor 4 expression in porcine adipose tissue but does not alter the expression of other immune modulators.* J Nutr Biochem, 2008. **19**(1): p. 8-15.
20. Gabler, N.K. and M.E. Spurlock, *Integrating the immune system with the regulation of growth and efficiency.* J Anim Sci, 2008. **86**(14 Suppl): p. E64-74.
21. Houseknecht, K.L., et al., *The biology of leptin: a review.* J Anim Sci, 1998. **76**(5): p. 1405-20.
22. Houseknecht, K.L., et al., *Expression and cDNA cloning of porcine peroxisome proliferator-activated receptor gamma (PPARgamma).* Gene, 1998. **225**(1-2): p. 89-96.
23. Houseknecht, K.L., et al., *Growth hormone regulates leptin gene expression in bovine adipose tissue: correlation with adipose IGF-1 expression.* J Endocrinol, 2000. **164**(1): p. 51-7.
24. Houseknecht, K.L. and M.E. Spurlock, *Leptin regulation of lipid homeostasis: dietary and metabolic implications.* Nutr Res Rev, 2003. **16**(1): p. 83-96.
25. Jacobi, S.K., et al., *Cloning and expression of porcine adiponectin, and its relationship to adiposity, lipogenesis and the acute phase response.* J Endocrinol, 2004. **182**(1): p. 133-44.
26. Jacobi, S.K., et al., *Adipocytes, myofibers, and cytokine biology: new horizons in the regulation of growth and body composition.* J Anim Sci, 2006. **84 Suppl**: p. E140-9.
27. Ji, S., et al., *Myostatin expression in porcine tissues: tissue specificity and developmental and postnatal regulation.* Am J Physiol, 1998. **275**(4 Pt 2): p. R1265-73.
28. Ji, S., et al., *Soybean isoflavones, genistein and genistin, inhibit rat myoblast proliferation, fusion and myotube protein synthesis.* J Nutr, 1999. **129**(7): p. 1291-7.
29. Ji, S., et al., *Partial cloning and expression of the bovine leptin gene.* Anim Biotechnol, 1998. **9**(1): p. 1-14.
30. Ji, S.Q., et al., *Porcine somatotropin improves growth in finishing pigs without altering calpain 3 (p94) or alpha-actin mRNA abundance and has a differential effect on calpastatin transcription products.* J Anim Sci, 1998. **76**(5): p. 1389-95.
31. Ji, S.Q., et al., *Proinflammatory cytokines regulate myogenic cell proliferation and fusion but have no impact on myotube protein metabolism or stress protein expression.* J Interferon Cytokine Res, 1998. **18**(10): p. 879-88.

32. Leininger, M.T., et al., *Leptin expression is reduced with acute endotoxemia in the pig: correlation with glucose, insulin, and insulin-like growth factor-1 (IGF-1).* J Interferon Cytokine Res, 2000. **20**(1): p. 99-106.
33. Leininger, M.T., et al., *Physiological response to acute endotoxemia in swine: effect of genotype on energy metabolites and leptin.* Domest Anim Endocrinol, 2000. **18**(1): p. 71-82.
34. Mao, G., et al., *Effect of a mitochondria-targeted vitamin E derivative on mitochondrial alteration and systemic oxidative stress in mice.* Br J Nutr, 2011. **106**(1): p. 87-95.
35. Mao, G., et al., *A mitochondria-targeted vitamin E derivative decreases hepatic oxidative stress and inhibits fat deposition in mice.* J Nutr, 2010. **140**(8): p. 1425-31.
36. McComb, M.A. and M.E. Spurlock, *Expression of stress proteins in porcine tissues: developmental changes and effect of immunological challenge.* J Anim Sci, 1997. **75**(1): p. 195-201.
37. McCracken, B.A., et al., *Weaning anorexia may contribute to local inflammation in the piglet small intestine.* J Nutr, 1999. **129**(3): p. 613-9.
38. Mills, S.E., M.E. Spurlock, and D.J. Smith, *Beta-adrenergic receptor subtypes that mediate ractopamine stimulation of lipolysis.* J Anim Sci, 2003. **81**(3): p. 662-8.
39. Miner, J.L., et al., *Expression and complement d activity of porcine adipsin.* Protein Expr Purif, 2001. **23**(1): p. 14-21.
40. Park, S.K., et al., *Chronic activation of 5'-AMP-activated protein kinase changes myosin heavy chain expression in growing pigs.* J Anim Sci, 2009. **87**(10): p. 3124-33.
41. Raman, P., S.S. Donkin, and M.E. Spurlock, *Regulation of hepatic glucose metabolism by leptin in pig and rat primary hepatocyte cultures.* Am J Physiol Regul Integr Comp Physiol, 2004. **286**(1): p. R206-16.
42. Spurlock, M.E., *Regulation of metabolism and growth during immune challenge: an overview of cytokine function.* J Anim Sci, 1997. **75**(7): p. 1773-83.
43. Spurlock, M.E., et al., *Nutritionally induced adipose hypertrophy in young pigs is transient and independent of changes in the expression of the obese and peroxisome proliferator activated receptor genes.* J Nutr Biochem, 2002. **13**(2): p. 112-120.
44. Spurlock, M.E., et al., *The effect of ractopamine on beta-adrenoceptor density and affinity in porcine adipose and skeletal muscle tissue.* J Anim Sci, 1994. **72**(1): p. 75-80.
45. Spurlock, M.E., J.C. Cusumano, and S.E. Mills, *The affinity of ractopamine, clenbuterol, and L-644,969 for the beta-adrenergic receptor population in porcine adipose tissue and skeletal muscle membrane.* J Anim Sci, 1993. **71**(8): p. 2061-5.
46. Spurlock, M.E., J.C. Cusumano, and S.E. Mills, *(-)-[3H]-dihydroalprenolol binding to beta-adrenergic receptors in porcine adipose tissue and skeletal muscle membrane preparations.* J Anim Sci, 1993. **71**(7): p. 1778-85.
47. Spurlock, M.E., et al., *Obese gene expression in porcine adipose tissue is reduced by food deprivation but not by maintenance or submaintenance intake.* J Nutr, 1998. **128**(4): p. 677-82.
48. Spurlock, M.E., et al., *Effect of dietary energy source and immunological challenge on growth performance and immunological variables in growing pigs.* J Anim Sci, 1997. **75**(3): p. 720-6.
49. Spurlock, M.E. and N.K. Gabler, *The development of porcine models of obesity and the metabolic syndrome.* J Nutr, 2008. **138**(2): p. 397-402.
50. Spurlock, M.E., K.J. Hahn, and J.L. Miner, *Regulation of adipsin and body composition in the monosodium glutamate (MSG)-treated mouse.* Physiol Behav, 1996. **60**(5): p. 1217-21.
51. Spurlock, M.E., et al., *Regulation of PPARgamma but not obese gene expression by dietary fat supplementation.* J Nutr Biochem, 2000. **11**(5): p. 260-6.

52. Spurlock, M.E., et al., *Changes in the expression of uncoupling proteins and lipases in porcine adipose tissue and skeletal muscle during feed deprivation*(1).* J Nutr Biochem, 2001. **12**(2): p. 81-87.
53. Spurlock, M.E., et al., *Leptin expression in porcine adipose tissue is not increased by endotoxin but is reduced by growth hormone.* J Interferon Cytokine Res, 1998. **18**(12): p. 1051-8.
54. Spurlock, M.E. and J.E. Savage, *Effect of dietary protein and selected antioxidants on fatty liver hemorrhagic syndrome induced in Japanese quail.* Poult Sci, 1993. **72**(11): p. 2095-105.
55. Spurlock, M.E. and J.E. Savage, *Research note: antioxidant activity of Japanese quail liver cytosol in the absence and presence of reduced glutathione.* Poult Sci, 1992. **71**(5): p. 928-31.
56. Wang, X., et al., *Effects of triacylglycerol structure and solid fat content on fasting responses of mice.* Eur J Nutr, 2015.
57. Weber, T.E., B.J. Kerr, and M.E. Spurlock, *Regulation of hepatic peroxisome proliferator-activated receptor alpha expression but not adiponectin by dietary protein in finishing pigs.* J Anim Physiol Anim Nutr (Berl), 2008. **92**(5): p. 569-77.
58. Weber, T.E. and M.E. Spurlock, *Leptin alters antibody isotype in the pig in vivo, but does not regulate cytokine expression or stimulate STAT3 signaling in peripheral blood monocytes in vitro.* J Anim Sci, 2004. **82**(6): p. 1630-40.
59. Wulster-Radcliffe, M.C., et al., *Adiponectin differentially regulates cytokines in porcine macrophages.* Biochem Biophys Res Commun, 2004. **316**(3): p. 924-9.