

STEVEN MICHAEL LONERGAN

Education

Degree		Institution	Year
B. S.	Animal Science	Iowa State University	1988
M. S.	Meat Science	Iowa State University	1991
Ph.D.	Animal Science Minor in Biochemistry	University of Nebraska	1995

Summary of Professional Experience

- 1995-1998 Assistant Professor, Meat Science & Muscle Biology
Department of Animal and Dairy Science, Auburn University
Appointment: 70% Research, 30% Instruction
- 1998- 2004 Assistant Professor, Meat Science & Muscle Biology
Animal Science Department, Iowa State University
Appointment: 75% Research, 25% Instruction
- 2004- 2008 Associate Professor, Meat Science & Muscle Biology
Animal Science Department, Iowa State University
Appointment: 75% Research, 25% Instruction
Meat Science Group, Muscle Biology Group
- 2008-2014 Professor, Meat Science & Muscle Biology
Animal Science Department, Iowa State University
Appointment: 75% Research, 25% Instruction
Meat Science Group, Muscle Biology Group,
- 2014- 2020 Professor, Meat Science & Muscle Biology
Director of Graduate Education, Animal Science
Animal Science Department, Iowa State University
Appointment: 65% Research, 25% Instruction, 10% Administration
Meat Science Group, Muscle Biology Group,
Graduate Faculty Member: *Meat Science, Animal Physiology, Animal Science*
- 2020-present Professor, Meat Science & Muscle Biology
Animal Science Department, Iowa State University
Appointment: 75% Research, 25% Instruction
Meat Science Group, Muscle Biology Group,

Awards and Honors: Teaching

American Society of Animal Science & American Dairy Science Association Midwest Section Outstanding Young Teacher Award (2001)
Iowa State University College of Agriculture Early Achievement in Teaching Award (2001)
American Meat Science Association Distinguished Teaching Award (2008)
Iowa State University College of Agriculture and Life Sciences Outstanding Achievement in Teaching Award (2013)
American Society of Animal Science Distinguished Teaching Award (2015)
Iowa State University Award for Outstanding Achievement in Teaching (2016)
Invited Speaker: Opening Session of Annual Meeting of the American Society of Animal Science. Baltimore Maryland, July, 2017.
United States Department of Agriculture, Food and Agriculture Sciences National Excellence in Teaching Award (2018)

Awards and Honors: Research

ISU College of Agriculture Team Award: Alternative Swine Production Systems Initiative Team (2002)
American Meat Science Association Achievement Award (2002)
Invited Speaker, FASEB Summer Conference: Biology of Calpains in Health and Disease (2004, 2007)
F.P. Niinivaara Invited Lecturer, Finland National Meat Symposium. University of Helsinki, Finland (2006)
Invited Speaker, International Congress of Meat Science and Technology (2009)
American Society of Animal Science Meat Science Research Award (2009)
Faculty Membership in Cardinal Key Honorary Society (2010)
Iowa State University Rossmann Manatt Faculty Development Award (2011)
American Meat Science Association Distinguished Research Award (2012)
Iowa State University College of Agriculture and Life Sciences Team Award for the Residual Feed Intake Research Team (2013)
American Meat Science Association Signal Service Award (2014)
American Meat Science Association Fellow (2014)
Invited Speaker, EAAP (European Federation of Animal Science, Triennial Symposium on Energy and Protein Metabolism (2016)
Maxwell Keynote Speaker, Purdue University Animal Science Department Annual Celebration of Science (2017)
Keynote Speaker, Chinese Conference of Science and Technology for Animal Products Processing, Nanjing China (2017)
Keynote Speaker, Asian-Pacific Congress of Meat Science and Technology. Nanjing, China (2019)

Awards and Honors: Student Service

Iowa FarmHouse Fraternity Darl E. Snyder Alumni Service Award (2003, 2010)
Student Scholars and Leaders Recognition, ISU Vice President for Academic Affairs (2006, 2008, 2009)
College of Agriculture Outstanding Undergraduate Advisor Award (2007)
Iowa State University Award for Academic Advising Impact (2007)
Iowa State University Greek Community Faculty Recognition (2007, 2010, 2011, 2014)
Iowa FarmHouse Fraternity Heritage Award (2013)
Iowa State University Division of Student Affairs Wilbur Layton Faculty Recognition Award (2015)
FarmHouse International Fraternity Claude B. Hutchison Award for Meritorious Service (2018)

Major Contribution to Scientific Community

American Society of Animal Science Meat Science/Muscle Biology Program Committee (1998-2000); Chair (2000)
Journal of Animal Science Editorial Board (2001-2004; 2007-2011)
American Society of Animal Science Midwest Section Growth, Development, Muscle Biology, and Meat Science Committee (2001-2003); Chair (2003)
Central Committee for the National Pork Industry Research and Extension Priorities Publication (2003)
Publication Committee Chair, American Society of Animal Science (2006-2008)
Board of Directors, American Society of Animal Science (2005-2008)
Board of Directors, Midwest Section of American Society of Animal Science (2005-2008)
Editorial Board, Meat Science (an Elsevier Journal) (2007-2015)
Program Chair, Joint Annual Meeting of the American Society of Animal Science and the American Dairy Science Association (2008)
Board of Directors, American Meat Science Association (2009-2011)
Program Chair, 2011 Reciprocal Meat Conference (Annual Meeting of the American Meat Science Association)
Editorial Board, Encyclopedia of Meat Science (2nd Edition; 2012)
Associate Editor, Journal of Animal Science. (2011-2013)
International Congress of Meat Science and Technology United States Representative (2012-2020)
Guest Editor, Animal Frontiers Fall 2012.
Division Editor, Journal of Animal Science, 2011-2015
Associate Editor, Journal of Animal Science, 2015-present
USDA LEAD21 Class 14 Graduate (2019)
Asian-Pacific Congress of Meat Science and Technology Scientific Committee (2019)
International Congress of Meat Science and Technology 2020 Co-Chair

INSTITUTIONAL SERVICE

Departmental Service

Mentor for Dr. J. T. Selsby (2008-2019)
Mentor for Dr. N. K. Gabler (2008-2019)
Mentor for Dr. A. F. Keating (2010-present)
Mentor for Dr. Sherry Olsen (2011-present)
Mentor for Mr. Greg Krahn (2017- 2018)
Mentor for Dr. Jodi Sterle (2017-2020)

Departmental Committees

ISU Animal Science Liaison to the ISU Parks Library (1999-2016)
Animal Science Electronic Teaching Materials, Facilities & Equipment Committee (1999-2010)
Animal Science Departmental Visioning Working Group (2002)
ISU Animal Science Farm User Committee Chair (2002-2003)
Writing Sub-Committee for Departmental Self-Study Document (2003)
Student Recruitment and Retention Committee (2003-2007)
4-H Roundup committee (2006-2007)
Animal Industry Report Animal Product Section Editor (2004-2014)
Animal Science Curriculum and Assessment Committee (2008-2014; Chair 2010-2014)
Animal Science Study Abroad Committee (2013-present)
Animal Science Awards and Recognition Committee (2012-2016)
Animal Science Graduate Affairs Committee (2012-2020)
Animal Science Graduate Affairs Committee Chair (2014-2019)
Chuckwagon Breakfast Committee (Committee 11 times, chair 7 times)
Animal Science Department Director of Graduate Education (2014- 2019)
Committee to nominate Maynard Hogberg for Saddle and Sirloin National Award (Co-Chair, 2016)
Animal Science Curriculum Committee (2014-present)
Animal Science Internal Advisory Committee (2014-2019)
Committee for fundraising for the AMSA Joe Sebranek Mentorship (Chair, 2018)
Committee for fundraising for the AMSA Joe Cordray Mentorship (Co-Chair, 2019)

College of Agriculture and Life Sciences Committees

Nutritional Sciences Council Modern View in Nutrition Seminar Committee 2001-2005
Nutritional Sciences Council Research Committee 2005-2009; Chair 2007-2009
College of Agriculture Recruitment Committee (2000-2001)
The role of this committee is to coordinate college and departmental recruitment efforts.
College of Agriculture Microscopy Facility User Committee (2003-2006)
This committee was recruited to advise the facility director on issues regarding facility use and maintenance.

College of Agriculture and Life Sciences Curriculum Committee (2010-2014)

College of Agriculture and Life Sciences Louis Thompson Academic Advising Academy (2011-present).
College of Agriculture and Life Sciences Strategic Planning Writing Committee (2017)
College of Agriculture and Life Sciences Promotion and Tenure Workshop Speaker and Discussion leader (2018)
College of Agriculture and Life Sciences Graduate Education Advisory Committee (2019-2022)

Graduate College

Graduate Council (2016-2019;2020-2023)
Vice-Chair 2016-2017
Chair 2017-2018
Executive Committee (2017-2020)
Graduate Council Miller Fellowship Selection Committee (2016-2017)
Graduate Council Handbook Task Force (2018)
Graduate Council Handbook Chapter 9 Task Force (2017-2018)
Graduate Council Representative on the Policy Library Advisory Committee (2017-2018)
Zaffarano Graduate Student Research Prize Selection Committee (2017, 2018)
Margaret Ellen White Outstanding Graduate Faculty Award Selection Committee (2019)
Karas Award for Outstanding Dissertation Selection Committee (2021)

Graduate Faculty Membership Committee (2020-present; Ex-officio 2018-2019; Chair 2016-2017)
Graduate College Catalog and Curriculum Committee (ad hoc; 2017-2018)
Chair of Search Committee for Graduate College Associate Dean (2018)
Graduate College Postdoctoral Scholar Seed Grant Selection Committee (2019)
Graduate College Postdoctoral Scholar Excellence Award for Teaching and Mentoring Students Award Selection Committee (2019-2020)

University

Protein Facility Advisory Committee (2012- present)
Learning Management System Steering Committee (2016-2017)
Policy Library Advisory Committee (2017-present)
Center for Excellence in Learning and Teaching Advisory Board (2019-present)
University Faculty Working Group on Course Evaluations (Fall 2020)

Publications

Refereed Journal Articles (Cited over 5800 times, January 27, 2021; h index =39; ISI Web of Science- Clarivate Analytics).

1. Lonergan, S.M., J.G. Sebranek, K.J. Prusa and L.F. Miller. 1992. Porcine somatotropin (PST) administration to growing pigs: Effects on adipose tissue and processed product characteristics. *Journal of Food Science* 57:312-317.
2. Pringle, T.D., S.M. Lonergan, C.R. Calkins, S.J. Jones, P.S. Miller and M. Koohmaraie. 1993. Temporal response of rabbits to β -adrenergic agonist feeding: tissue weight, calpain and

- calpastatin activities, and nucleic acid and protein concentration. *Journal of Animal Science* 72:68-74.
3. Koohmaraie, M., S.D. Shackelford, T.L. Wheeler, S.M. Lonergan, and M.E. Doumit. 1995. A muscle hypertrophy condition in lamb (callipyge): Characterization of effects on muscle growth and meat quality traits. *Journal of Animal Science*. 73:3596-3607.
 4. Lonergan, S.M., M.H. Johnson and C.R. Calkins. 1995. An improved assay for calpain using fluorescein isothiocyanate-labeled casein. *Journal of Food Science* 60:72-78.
 5. Lonergan, S.M., C.W. Ernst, M.D. Bishop, C.R. Calkins, and M. Koohmaraie. 1995. Relationship of restriction fragment length polymorphisms (RFLP) at the bovine calpastatin locus to calpastatin activity and meat tenderness. *Journal of Animal Science* 73:3608-3612.
 6. Doumit, M.E., S.M. Lonergan, J.A. Arbona, J. Killefer, and M. Koohmaraie. 1996. Development of an enzyme-linked immunosorbent assay (ELISA) for quantification of skeletal muscle calpastatin. *Journal of Animal Science* 74:2679-2686.
 7. Harris, S.E., E. Huff-Lonergan, S.M. Lonergan, W.R. Jones, and D. Rankins. 2001. Antioxidant status affects color stability and tenderness of calcium chloride injected beef. *Journal of Animal Science* 79:666-677.
 8. Lonergan, S.M., E. Huff-Lonergan, L.J. Rowe, D.L. Kuhlers, and S.B. Jungst. 2001. Selection for lean growth efficiency in Duroc pigs: Influence on pork quality. *Journal of Animal Science* 79:2075-2085.
 9. Lonergan, S.M., E. Huff-Lonergan, B.R. Wiegand, and L.A. Kriese-Anderson. 2001. Postmortem proteolysis and tenderization of top loin steaks from Brangus cattle. *Journal of Muscle Foods* 12:121-136.
 10. Piedrafita, J., L.L. Christian, and S.M. Lonergan. 2001. Fatty acid profiles in three stress genotypes of swine and relationships with performance, carcass and meat quality traits. *Meat Science* 57: 71-77.
 11. Chiba, L.I., D.L. Kuhlers, L.T. Frobish, S.B. Jungst, E. J. Huff-Lonergan, S.M. Lonergan, and K. A. Cummins. 2002. Dietary restrictions and pigs selected for lean growth efficiency. *Livestock Production Science* 74:93-102.
 12. Kusmider, E.A., J.G. Sebranek, S.M. Lonergan, and M.S. Honeyman. 2002. Effects of carbon monoxide packaging on color and lipid stability of irradiated ground beef. *Journal of Food Science* 67:3463-3468.
 13. Helman, E.E., E. Huff-Lonergan, G.M. Davenport, and S.M. Lonergan. 2003. Effect of dietary protein on the calpain/calpastatin system in canine skeletal muscle. *Journal of Animal Science* 81:2199-2205.
 14. Houser, T., S.M. Lonergan, and J.G. Sebranek. 2003. Effects of irradiation on properties of cured ham. *Journal of Food Science* 68:2363-3265.
 15. Lonergan, S.M., N. Deeb, C.A. Fedler and S.J. Lamont. 2003. Breast meat quality and composition in unique chicken populations. *Poultry Science* 82:1990-1994.
 16. Doerscher, D.R., J.L. Briggs and S.M. Lonergan. 2004. Effects of pork collagen on thermal and viscoelastic properties of purified porcine myofibrillar protein gels. *Meat Science* 66:181-188.
 17. Davis, K.J., J.G. Sebranek, E. Huff-Lonergan and S.M. Lonergan. 2004. Effect of aging on moisture enhanced pork loins. *Meat Science* 66:519-524.

18. Davis, K.J., J.G. Sebranek, E. Huff-Lonerger, D. Ahn, and S.M. Lonergan. 2004. Influence of irradiation on quality of moisture enhanced pork loins. *Meat Science* 67:495-401.
19. Melody, J.L., S.M. Lonergan, L.J. Rowe, T.W. Huiatt, M.S. Mayes, and E. Huff-Lonerger. 2004. Early postmortem biochemical factors influence tenderness and water-holding capacity of three porcine muscles. *Journal of Animal Science* 82:1195-1205.
20. Rowe, L.J., K.R. Maddock, S.M. Lonergan, and E. Huff-Lonerger. 2004. Influence of early postmortem protein oxidation on beef quality. *Journal of Animal Science* 82:785-793.
21. Rowe, L.J., K.R. Maddock, S.M. Lonergan, and E. Huff-Lonerger. 2004. Oxidative environments decrease tenderization of beef steaks through inactivation of μ -calpain. *Journal of Animal Science* 82:3254-3266.
22. Ciobanu, D.D., J.W.M. Bastiaansen, S.M. Lonergan, H. Thomsen, J.C.M. Dekkers, G.S. Plastow, and M.F. Rothschild. 2004. New alleles in calpastatin gene are associated with meat quality traits in pigs. *Journal of Animal Science* 82:2829-2839.
23. Cummins, K.A., S.M. Lonergan and E. Huff-Lonerger. 2004. Effect of dietary protein depletion and repletion on skeletal muscle calpastatin during early lactation. *Journal of Dairy Science* 87:1428-1431.
24. Stahl, C.S., T.R. Callaway, L.M. Lincoln, and S.M. Lonergan. 2004. Evaluation of colicins for inhibitory activity against *Escherichia coli* strains responsible for post-weaning diarrhea and edema disease in swine. *Antimicrobial Agents and Chemotherapy*. 48:3119-3121.
25. Callaway, T.R., C.H. Stahl, T.S. Edrington, K.J. Genovese, L.M. Lincoln, R.C. Anderson, S.M. Lonergan, T.L. Poole, R.B. Harvey, and D.J. Nisbet. 2004. Colicin E1, N and A treatment inhibits growth of *Escherichia coli* O157: H7 but not *Salmonella* in vitro. *Journal of Food Protection* 67:2603–2607.
26. Stalder, K.J., M.F. Rothschild, and S.M. Lonergan. 2005. Associations between two gene markers and indicator traits affecting fresh and dry-cured ham processing quality. *Meat Science* 69:451-457.
27. Maddock, K.R., E. Huff-Lonerger, L.J. Rowe, and S.M. Lonergan. 2005. Effect of pH and ionic strength on of μ - and m-calpain inhibition by calpastatin. *Journal of Animal Science* 83:1370-1376.
28. Westphalen, A.D., J.L. Briggs, and S.M. Lonergan. 2005. Influence of pH on rheological properties of porcine myofibrillar protein during heat induced gelation. *Meat Science* 70:293-299.
29. Huff-Lonerger, E. and S.M. Lonergan. 2005. Mechanisms of water holding capacity in meat: The role of postmortem biochemical and structural changes. *Meat Science* 71:194-204.
30. Gardner, M.A., E. Huff-Lonerger, L.J. Rowe, C.M. Schultz-Kaster, and S.M. Lonergan. 2006. Influence of harvest processes on pork loin and ham quality. *Journal of Animal Science* 84:178-184.
31. Westphalen, A. D., J. L. Briggs, and S. M. Lonergan. 2006. Influence of muscle type and pH on rheological properties of porcine myofibrillar protein during heat induced gelation. *Meat Science* 72:697-703.
32. Bee, G., C. Biolley, G. Guex, W. Herzog, S. M. Lonergan, E. Huff-Lonerger. 2006. Effects of available dietary carbohydrate and pre-slaughter treatment on glycolytic potential, protein degradation and quality traits of pig muscles. *Journal of Animal Science* 84:191-203.

33. Carlin, K. R. M., E. Huff-Loneragan, L.J. Rowe, and S. M. Lonergan. 2006. Effect of oxidation, pH and ionic strength on calpastatin inhibition of μ - and m-calpain. *Journal of Animal Science* 84:925-937.
34. Zhang, W.G., S.M. Lonergan, M.A. Gardner and E. Huff-Loneragan. 2006. The role of integrin and desmin degradation in water holding capacity in pork. *Meat Science* 74:578-585.
35. Bee, G., A.L. Anderson, S.M. Lonergan, and E. Huff-Loneragan. 2007. Extent of pH decline affects proteolysis of cytoskeletal proteins and water holding capacity in pork. *Meat Science* 76:359-365.
36. Zhang, S., T.J. Knight, K.J. Stalder, R.N. Goodwin, S.M. Lonergan, and D.C. Beitz. 2007. Effects of breed, gender, and halothane genotype on fatty acid composition and healthfulness of pork *longissimus dorsi* muscle. *Journal of Animal Science* 85:583-591.
37. Lonergan, S.M., K. J. Stalder, T.J. Knight, E. Huff-Loneragan, R.N. Goodwin, K.J. Prusa, and D.C. Beitz. 2007. Influence of lipid content on pork sensory quality within pH classification. *Journal of Animal Science* 85:1074-1079.
38. Mennecke, B.E., A.M. Townsend, D.J. Hayes, and S.M. Lonergan. 2007. A study of the factors that influence consumer attitudes toward beef products using the conjoint market analysis tool. *Journal of Animal Science* 85:2639-2659.
39. Guimaraes, S.E.F., M.F. Rothschild, C.H. Stahl, and S.M. Lonergan. 2007. SNP discovery, expression, and association analysis for the SDHD gene in pigs. *Journal of Animal Breeding and Genetics* 124:246-253.
40. Huff-Loneragan, E. and S.M. Lonergan. 2007. New frontiers in understanding drip loss in pork: Recent insights on the role of postmortem muscle biochemistry. *Journal of Animal Breeding and Genetics* 124(Suppl.1):19-26.
41. Patton, B.S., J.S. Dickson, S.M. Lonergan, S.A. Cutler, and C.H. Stahl. 2007. Inhibitory effects of Colicin E1 against *Listeria monocytogenes*. *Journal of Food Protection* 70: 1256-1262.
42. Guimaraes, S.E.F., C.H. Stahl, S.M. Lonergan, B. Geiger, and M.F. Rothschild. 2007. Myostatin promoter analysis and expression pattern in pigs. *Livestock Science* 112:143-150.
43. Cutler, S.A., S.M. Lonergan, N. Cornick, A.K. Johnson, and C.H. Stahl. 2007. Dietary inclusion of Colicin E1 is effective in preventing *Escherichia coli* F18 caused post-weaning diarrhea in pigs. *Antimicrobial Agents and Chemotherapy* 51:3830-3835.
44. Patton, B.S., E. Huff-Loneragan, M.S. Honeyman, B.J. Kerr, and S.M. Lonergan. 2008. Effects of space allocation within a deep bedded finishing system on swine growth performance, fatty acid composition and pork quality. *Animal* 2: 471-478.
45. Patton, B.S., E. Huff-Loneragan, M.S. Honeyman, J.D. Crouse, B.J. Kerr, and S.M. Lonergan. 2008. Effects of deep bedded finishing system on market swine performance, composition and pork quality. *Animal* 2:459-470.
46. Barbut, S., A.A. Sosnicki, S.M. Lonergan, T. Knapp, D.C. Ciobanu, L.J. Gatcliffe, E. Huff-Loneragan, and E.W. Wilson. 2008. Progress in reducing the pale, soft, and exudative (PSE) problem in pork and poultry meat. *Meat Science* 79:46-63.
47. Carnagey, K.M. E.J. Huff-Loneragan, S.M. Lonergan, A. Trenkle, R.L. Horst, and D.C. Beitz. 2008. Use of 25-hydroxyvitamin D₃ and dietary calcium to improve tenderness of beef from the round of beef cows. *Journal of Animal Science* 86:1637-1648.

48. Lametsch, R., S.M. Lonergan, E. Huff-Lonergan. Disulfide bond within μ -calpain active site inhibits activity and autolysis. 2008. *Biochimica et Biophysica Acta Proteins and Proteomics* 1784:1215-1221.
49. Alexander, L.S. A. Qu, S.A. Cutler, A. Mahajan, S.M. Lonergan, M.F. Rothschild, T.E. Weber, B. J. Kerr, and C. H. Stahl. 2008. Response to dietary phosphorus deficiency is affected by genetic background in growing pigs. *Journal of Animal Science*. 86:2585-259.
50. Lammers, P.J., B.J. Kerr, T.E. Weber, K. Bregendahl, S.M. Lonergan, K.J. Prusa, D.U. Ahn, W.C. Stoffregen, W.A. Dozier III, and M. S. Honeyman. 2008. Growth performance, carcass characteristics, meat quality, and tissue histology of growing pigs fed crude glycerol-supplemented diets. *Journal of Animal Science*. 86:2962-2970.
51. Patton, B.S., S.M. Lonergan, S.A. Cutler, C.H. Stahl, and J.S. Dickson. 2008. Application of Colicin E1 as a pre-fabrication intervention strategy. *Journal of Food Protection* 71:2519-2522.
52. Zhang, S., T.J. Knight, K.J. Stalder, R.N. Goodwin, S.M. Lonergan, and D.C. Beitz. 2009. Effects of breed, sex and halothane genotype on fatty acid composition of triacylglycerols and phospholipids in pork longissimus muscle. *J. Anim. Breed. Genetics*. 126(4): 259-268.
53. Fan, B., S. Lkhagvadorj, W. Cai, J. Young, R. M. Smith, J.C.M. Dekkers, E. Huff-Lonergan, S.M. Lonergan, and M.F. Rothschild. 2010 Identification of genetic markers associated with residual feed intake and meat quality traits in the pig. *Meat Science*. 84:645-650.
54. Berry, N., A. Johnson. S.M. Lonergan. T. Baas, J. Hill, C. Schultz-Kaster, J. Matthews, L. Karriker and K. Stalder. 2010. Loading gantry versus traditional chute: Effect on fresh pork loin quality attributes when properly loaded. *Fleischwirtschaft International*. No. 1. 2010:60-63. (*Re-Published in German by invitation: Berry, N., A. Johnson, S. Lonergan, T. Baas, J. Hill, C. Schultz-Kaster, J. Matthews, L. Karriker, and K. Stalder. 2010. Mobiler Treibgang im vergleich mit traditioneller rampe. FLEISCHWIRTSCHAFT July. pp119-122.*)
55. Honeyman, M.S., W.D. Busby, S.M. Lonergan, A.K. Johnson, D.L. Maxwell, J.D. Harmon, and S.C. Shouse. 2010. Performance and carcass characteristics of finishing beef cattle managed in a bedded hoop barn system. *Journal of Animal Science* 88: 2797-2801.
56. Kim, Y.H., E. Huff-Lonergan, J.G. Sebranek, S.M. Lonergan. 2010. High oxygen modified atmosphere packaging system induces lipid and myoglobin oxidation and protein polymerization. *Meat Science* 85:759-767.
57. Huff-Lonergan, E., W.G. Zhang, and S.M. Lonergan. 2010. Biochemistry of postmortem muscle - Lessons on mechanisms of meat tenderization. *Meat Science*. 86:184-195.
58. Kim, Y.H., E. Huff-Lonergan, J.G. Sebranek, S.M. Lonergan. 2010. Effects of lactate/phosphate injection enhancement on oxidation stability and protein degradation in early postmortem beef cuts packaged in high oxygen modified atmosphere. *Meat Science*. 86:852-858.
59. Kim, Y.H., S.M. Lonergan, E. Huff-Lonergan. 2010. Protein denaturing conditions in beef deep semimembranosus muscle resulted in limited protein degradation and μ -calpain autolysis. *Meat Science*. 86:883-887.
60. Berry, N., A. Johnson. S.M. Lonergan. T. Baas, J. Hill, C. Schultz-Kaster, J. Matthews, L. Karriker and K. Stalder. 2010. Loading gantry vs. traditional chute – Effect on fresh pork loin quality attributes with challenges at loading. *Fleischwirtschaft International*. No. 5. 2010:69-71.

61. Smith, R.M., N.K. Gabler, J.M. Young, W. Cai, N.J. Boddicker, M.J. Anderson, E. Huff-Lonergan, J.C.M. Dekkers, and S.M. Lonergan. 2011. Effects of selection for decreased residual feed intake on composition and quality of fresh pork. *Journal of Animal Science*. 89:192-200.
62. Sadler, L.J., A.K. Johnson, S.M. Lonergan, D. Nettleton, and J.C.M. Dekkers. 2011. The effect of selection for residual feed intake on general behavioral activity and the occurrence of lesions in Yorkshire gilts. *J. Animal Science*. 89:258-266.
63. Johnson, A.K., S.M. Lonergan W.D. Busby, S.C. Shouse, D.L. Maxwell, J.D. Harmon, and M.S. Honeyman. 2011. Comparison of steer behavior when housed in a deep-bedded hoop barn versus an open feedlot with shelter. *Journal of Animal Science*. 89:1893-1898.
64. Gardan-Salmon, D., J.M. Dixon, S.M. Lonergan, and J.T. Selsby. 2011. Proteomic assessment of the acute phase of dystrophin deficiency in mdx mice. *European Journal of Applied Physiology* 111:2763–2773.
65. Anderson, M.J., S.M. Lonergan, and E. Huff-Lonergan. 2012. Myosin light chain 1 release from myofibrillar fraction during postmortem aging is a potential indicator of proteolysis and tenderness of beef. *Meat Science* 90:345-351.
66. Kim, Y.H., E. Huff-Lonergan, and S.M. Lonergan. 2012. Effect of calcium lactate on m-calpain activity and protein degradation under oxidizing conditions. *Food Chemistry* 131:73-78.
67. Wang, Q., S. M. Lonergan, and C. Yu. 2012. Rapid determination of pork sensory using Raman spectroscopy. *Meat Science* 91:232-239.
68. Anderson, M.J., S.M. Lonergan, C.A. Fedler, K.J. Prusa, J.M. Binning, and E. Huff-Lonergan. 2012. Profile of biochemical traits influencing tenderness of muscles from the beef round. *Meat Science* 91:247-254.
69. Berry, N.L., A.K. Johnson, J. Hill, S.M. Lonergan, L.A. Karriker, and K.J. Stalder. 2012. Loading gantry versus traditional chute for the finisher pig: Effect on welfare at the time of loading and performance measures and transport losses at the harvest facility. *J. Anm. Sci*. 90:4028-4036.
70. Barnes, K., T. Collins, S. Dion, H. Reynolds, S. Riess, A. Stanzyk, A. Wolfe, S. Lonergan, P. Boettcher, U.R. Charrondiere, and B. Stadlmayr. 2012. Importance of cattle biodiversity and its influence on the nutrient composition of beef. *Animal Frontiers* 2 (4): 54-60.
71. Harris, A.J., J.F. Patience, S.M. Lonergan, J.C.M. Dekkers and N.K. Gabler. 2012. Improved nutrient digestibility and retention partially explains feed efficiency gains in pigs selected for low residual feed intake. *Journal of Animal Science* 90(Suppl. 4):164-166.
72. Harris, A. J., J. K. Grubbs, S. M. Lonergan, J. F. Patience, J. C. M. Dekkers and N. K. Gabler. 2013. Divergent selection for residual feed intake alters whole body tissue accretion rate in growing pigs. In *Manipulating Pig Production XIV*, (Ed. J. Pluske) Australasian Pig Science Association: Werribee, Australia. Page 223.
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 38. Anderson, M. J., E. Steadham, C. Fedler, K. J. Prusa, S. M. Lonergan, E. Huff-Lonergan. 2009. Influence of fiber type on palatability attributes of beef round. ISU Animal Industry Report, AS Leaflet R2393
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 40. Baker, R. G., A. K. Johnson, S. M. Lonergan, M. S. Honeyman, and D. Busby. Finishing Steers in a Deep-bedded Hoop Barn and a Conventional Feedlot: Effects on performance and carcass characteristics during winter in Iowa. ISU Animal Industry Report, AS Leaflet R2405
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 43. Kim, Y. S. M. Lonergan, E. Huff-Lonergan. 2010. High oxygen packaging system negatively affects color stability and sensory attributes of beef cuts. ISU Animal Industry Report, AS Leaflet-R2489
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48. Sadler, L. J., A.K. Johnson, S.M. Lonergan, J. C. M. Dekkers, D. Nettleton. 2010. The Effect of Selection for Residual Feed Intake on General Behavioral Activity in Yorkshire Gilts. ISU Animal Industry Report, AS-Leaflet-R2553
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53. Myers, K.L., J. Cannon, D. Montoya, J. Dickson, S. Lonergan, and J. Sebranek. 2013. High hydrostatic pressure processing for improving the control of *Listeria monocytogenes* on ready to eat (RTE) sliced ham with variable nitrite concentrations. ISU Animal Industry Report, AS Leaflet R2760.
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57. Arkfeld, E., E. Hamman, J. Berger, R. Johnson, J. Young, C. Fedler, K. Prusa, J. Patience, J. Dekkers, N. Gabler, S. Lonergan, E. Huff-Lonergan. 2014. Diets Differing in Energy and Fiber Content Affected Adipose Tissue Quality of Carcasses from Pigs Divergently Selected for Residual Feed Intake. AS-Leaflet 2905.
58. Arkfeld, E., E. Hamman, J. Berger, R. Johnson, J. Young, C. Fedler, K. Prusa, J. Patience, J. Dekkers, N. Gabler, S. Lonergan, E. Huff-Lonergan. 2014. Divergent Selection for Residual

- Feed Intake Impacts Carcass Composition of Pigs on High or Low Energy Diets. AS-Leaflet 2906.
59. Arkfeld, E., E. Hamman, J. Berger, R. Johnson, J. Young, C. Fedler, K. Prusa, J. Patience, J. Dekkers, N. Gabler, S. Lonergan, E. Huff-Lonergan. 2014. The Impact of Divergent Selection for Residual Feed Intake on Meat Quality Traits of Loins from Pigs on High or Low Energy Diets. AS-Leaflet 2907.
 60. Cruzen, S. R. Boddicker, K. Graves, T. Johnson, E. Arkfeld, L. Baumgard, J. Ross, S. Lonergan, T. Safranski, M. Lucy. 2014. Carcass Composition of Market Weight Pigs Subjected to Heat Stress in utero or during Growth. AS-Leaflet 2921.
 61. Grubbs, K., N. Gabler, J. Dekkers, E. Huff-Lonergan, S. Lonergan. 2014. Selection for Residual Feed Intake Alters the Protein Profile of the Mitochondria in Pigs. AS-Leaflet 2923.
 62. O'Neil, M., G. Kraus, N. Gabler, S. Lonergan, D. Beitz. 2014. Impact of Mitochondrially Targeted Novel Antioxidant on Pig Feed Efficiency. AS Leaflet 2934.
 63. Grubbs, J.K., C. K. Tuggle, J. C.M. Dekkers, Y.T. Nguyen, E. J. Huff-Lonergan, D. S. Nettleton, and S. M. Lonergan 2015. Development of protein biomarker identification protocols. Animal Industry Report: AS 661, ASL R2940. Available at: http://lib.dr.iastate.edu/ans_air/vol661/iss1/3.
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 68. Carlson, K.B., K. Prusa, C. Fedler, E. Steadham, A. Outhouse, E. Huff-Lonergan, and S. M. Lonergan. 2017. Proteolysis influences tenderness of aged pork loins. *Animal Industry Report*: AS 663, ASL R3132. Available at: http://lib.dr.iastate.edu/ans_air/vol663/iss1/5
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meat tenderness attributes of beef steers. *Animal Industry Report*: AS 663, ASL R3137. Available at: http://lib.dr.iastate.edu/ans_air/vol663/iss1/10

71. Rauw, W., J. Mayorga Lozano, S. Lei, J. Patience, N. Gabler, S. Lonergan, J. Dekkers, and L. Baumgard. 2017. Effects of diet and genetics on production traits in response to repeated exposure to heat stress in pigs. *Animal Industry Report*: AS 663, ASL R3194. Available at: http://lib.dr.iastate.edu/ans_air/vol663/iss1/67
72. Azarpajouh, S., J. Colpoys, E. Arkfeld, N. Gabler, A. Johnson, J. Dekkers, Elisabeth Huff-Lonergan, S. Lonergan, J. Patience, K. Stalder. 2018. Behavioral associations during a human approach test and performance of barrows divergently selected for residual feed intake. *Animal Industry Report*: AS 664, ASL R3265. Available at: https://lib.dr.iastate.edu/ans_air/vol664/iss1/63
73. Azarpajouh, S., J. Colpoys, E. Arkfeld, N. Gabler, A. Johnson, J. Dekkers, Elisabeth Huff-Lonergan, S. Lonergan, J. Patience, K. Stalder. 2018. Behavioral associations during a novel object test and performance of barrows divergently selected for residual feed intake. *Animal Industry Report*: AS 664, ASL R3266. Available at: https://lib.dr.iastate.edu/ans_air/vol664/iss1/64

Invited Presentations

Regional and National Meetings

1. Koohmaraie, M., D. Smith and S. M. Lonergan. An ELISA test for calpastatin. Presented at the 49th Reciprocal Meat Conference June 11, 1996. Provo, Utah.
2. Lonergan, S. M., E. Huff-Lonergan and M. Koohmaraie. 1997. Beef tenderness: Regulation and prediction. Presented at the Southern Section meetings of the American Society of Animal Science, Birmingham, AL. February 3, 1997.
3. Lonergan, S. M., E. Huff-Lonergan and D. M. Payne. 1997. Biology of the calpain - calpastatin system. Presented at the Southern Section meetings of the American Society of Animal Science. Birmingham, AL. February 4, 1997.
4. Lonergan, S. M. 1997. Biology of the calpastatin system. Presented at Auburn University's inter-departmental reproductive biology forum. Auburn, AL. May 20, 1997.
5. Lonergan, S. M., E. Huff-Lonergan and D. M. Payne. 1997. Identification and purification of a high molecular weight bovine skeletal muscle calpastatin. Muscle Biochemistry Invited Poster Session. Reciprocal Meat Conference. June 1997.
6. Huff-Lonergan, E. J., and S. M. Lonergan. 1998. Postmortem mechanisms of meat tenderization: The roles of the structural proteins and the calpain system. American Chemical Society, Agricultural and Food Chemistry Division. Symposium: Quality attributes and measurements of muscle foods. Dallas TX. March 29-April 2, 1998.
7. Huff-Lonergan, E., S. M. Lonergan, S. B. Jungst, and D. L. Kuhlers. 1999. Selection for lean growth efficiency in Duroc pigs: Impact on pork quality. Muscle Biochemistry Invited Poster Session. Reciprocal Meat Conference. June 1999.

8. Lonergan, S.M. 1999. Molecular features of striated muscle calpastatin. Roles of the calpain/calpastatin system in muscle growth and meat quality. Meat Science/ Muscle Biology Symposium. American Society of Animal Science. Indianapolis, IN. July 1999.
9. Lonergan, S.M. 2000. Characterization of glycogen storage and utilization: Influence on pork quality. Presented to the National Pork Producer's Council Pork Quality Solutions Committee. Des Moines, IA. July 12, 2000.
10. Huff-Lonergan, E., S. M. Lonergan, and L. J. Vaske. 2000. pH relationships to quality attributes: Tenderness. Proceedings of the International pH and pork quality workshop. Columbus, Ohio, June 22, 2000.
11. Lonergan, S. M. 2001. Thermoprocessing, products and processes: Introduction. International Animal Agriculture and Food Science Conference. Indianapolis, IN. July 26, 2001.
12. Huff-Lonergan, E., S. M. Lonergan, J. Dodge, and L. J. Rowe. 2002. Meat Tenderness: Biochemical aspects. Reciprocal Meat Conference Post Conference Symposium: Pork Quality Measurement Systems. East Lansing MI. August 1, 2002.
13. Lonergan, S. M. 2002. Influence of harvest processes on pork loin and ham quality. Pork Quality and Safety Summit. Des Moines, IA, June 18, 2002.
14. Lonergan, S. M., K. J. Prusa, and E. Huff-Lonergan. 2002. Sensory and instrumental analysis of the textural parameters of pork. Reciprocal Meat Conference Post Conference Symposium: Pork Quality Measurement Systems. East Lansing MI. August 1, 2002.
15. Lonergan, S. M., and E. Huff-Lonergan. 2004. Influence of nutrition on calpastatin in skeletal muscle. FASEB Summer Research Conference, Biology of Calpains in Health and Disease. Tucson, AZ. June 12-17, 2004.
16. Lonergan, S. M. 2004. Pork Quality. USDA sponsored national conference on hoop barns and bedded systems for livestock production. Ames, IA September 14, 2004.
17. Lonergan S. M., E. Huff-Lonergan and A. K. Johnson. 2006. Influence of swine handling on pork quality. International Meat Animal Welfare Conference. Sponsored by American Meat Institute, American Meat Science Association and the Federation of Animal Science Societies. February 22, 2006, Kansas City MO.
18. Lonergan S. M., E. Huff-Lonergan and A. K. Johnson. 2006. How does swine handling influence pork quality and value? American Meat Institute Animal Care and Handling Conference. February 23, 2006, Kansas City MO.
19. Huff-Lonergan, E., and S. M. Lonergan. 2006. Crossing the line between muscle and meat: The influence of muscle cell physiology on meat quality. Midwest ASAS/ADSA meeting March 20, 2006. Des Moines IA.
20. Lonergan S. M., and E. Huff-Lonergan. 2006. Molecular factors that contribute to development of pale soft and exudative pork. Institute of Food Technologist Annual meeting. June 24, 2006. Orlando FL.
21. Lonergan S. M. and E. Huff-Lonergan. 2006. Molecular factors that contribute to variation in water holding capacity in pork. Finland National Meat Symposium. October 19, 2006.
22. Weaver, A., S.M. Lonergan. E. Huff-Lonergan. 2007. Techniques in gel electrophoresis and western blotting. Proc. Recip. Meat Conf. South Dakota State University, June 19, 2007.

23. Huff-Lonergan, S. M. Lonergan, K. M. Carlin, E. Steadham. 2007. New insights on calpain regulation in skeletal muscle. FASEB Summer Research Conference, Biology of Calpains in Health and Disease. Snowmass Village, Colorado. July 14-19, 2007.
24. Lametsch, R., E. Huff-Lonergan, and S. M. Lonergan. Disulfide bond within μ -calpain active site inhibits activity and autolysis. FASEB Summer Research Conference, Biology of Calpains in Health and Disease. Snowmass Village, Colorado. July 14-19, 2007.
25. Huff-Lonergan, E., and S.M. Lonergan. 2007. The influence of muscle structure on the water-holding capacity of fresh meat. To be presented at the Meat Research Institute in Roskilde, Denmark on November 28, 2007.
26. Huff-Lonergan, E., and S.M. Lonergan. 2007. New insights on calpain regulation in postmortem muscle; Impacts on meat quality. To be presented to the Department of Food Science, University of Copenhagen, Denmark on November 30, 2007.
27. Lonergan, S. M., and E. Huff-Lonergan 2007. Beef round quality updated. Beef Round Utilization Summit, National Cattleman's Beef Association, December 17-18, Dallas, TX.
28. Lonergan, S. M., R. M. Smith, and E. Huff-Lonergan. 2008. Fresh pork quality and lipid content: Exploring the linkages. Midwest ASAS/ADSA meeting March 2008. Des Moines IA.
29. Huff-Lonergan, E., and S.M. Lonergan. 2008. Relationship of postmortem changes in myofibrillar protein to meat quality. Centennial Meeting of the American Society of Animal Science, Indianapolis, Indiana, July 7-11, 2008.
30. Huff-Lonergan, E., and S. M. Lonergan. 2008. Interaction between myofibril structure and proteolytic tenderization in beef. International Congress of Meat Science and Technology. August 10-15, Cape Town, South Africa.
31. Lonergan, S. M., E. Huff-Lonergan. 2009. Contribution of protein oxidation to variation in myofibrillar protein degradation in postmortem muscle. International Congress of Meat Science and Technology. Copenhagen, Denmark.
32. Lonergan S. M. 2009. Oxidation of calpain contributes to variation in protein degradation and meat quality development. Pre-Conference Workshop, International Congress of Meat Science and Technology. Copenhagen, Denmark.
33. Lonergan, S. M. 2011. Understanding muscle and meat protein modifications: Keys to improving meat quality? University of Kentucky Department of Animal Science Seminar.
34. Huff-Lonergan, E., S. M. Lonergan, S. Cruzen, K. Grubbs, J. Dekkers, N. Gabler, J. Selsby, and L. Baumgard. 2014. Use of proteomics for livestock improvement. Presented at the Joint Annual Meeting of the American Society of Animal Science and the American Dairy Science Association, Kansas City, MO. July, 2014.
35. Lonergan, S. M., S. M. Cruzen, J. K. Grubbs, E. Huff Lonergan, J. C. M. Dekkers, and N. K. Gabler. 2016. Mitochondrial and cellular metabolism in response to selection for residual feed intake in pigs. Presented at the Joint Annual Meeting of the American Society of Animal Science and the American Dairy Science Association, Orlando, FL. July, 2014.
36. Lonergan, S. M., N. K. Gabler, J.K. Grubbs, S. M Cruzen, K.B. Carlson, and E. Huff-Lonergan. 2016. Proteomic applications to study livestock growth efficiency and meat quality. Presented at the 5th EAAP International Symposium on Energy and Protein Metabolism and Nutrition, Krakow, Poland. September 14, 2016.

37. Lonergan, S. M. 2017. Advances in muscle biology and meat science to serve the livestock industry. Purdue University Animal Science Department Annual Day of Science Maxwell Lecture. March, 2017.
38. Lonergan, S. M. 2017. What comes first? Science or Practice? Opening Session of the American Society of Animal Science. AnimalX talk. July 8, 2017, Baltimore, Maryland.
39. Lonergan, S. M., E. Huff-Lonergan. 2017. Using proteomic technologies to understand variation in fresh meat quality and value. 2017 Chinese Conference of Science and Technology for Animal Products Processing. November 1, 2017. Nanjing, China.
40. Lonergan, S. M. 2017. Unraveling the mysteries of livestock growth, muscle metabolism, and meat quality: And... why they are related. Nanjing Agricultural University Animal Science College. November 2, 2017. Nanjing, China.
41. Lonergan, S. M. Defining the intrinsic factors that contribute to variation in fresh meat quality: The role of postmortem muscle biochemical changes. 2017. Nanjing Agricultural University Food Science College. November 3, 2017. Nanjing, China.
42. Lonergan, S. M. Advances in meat science research using proteomic technologies. 2018. Auburn University Department of Animal Science. April, 2018. Auburn, Alabama.
43. Lonergan, S. M. 2018. Contribution of muscle metabolism to variation in postmortem changes in muscle: Impact on fresh meat quality. Department seminar, Food Science Department, Yangzhou University, Yangzhou, China. October 11, 2019.
44. Lonergan, S. M. 2019. Metabolic and antioxidant features of the proteome that impact fresh meat quality. 2019 Asia-Pacific Congress of Meat Science and Technology, October 12, 2019, Nanjing China.
45. Lonergan, S. M. 2019. Investigation of factors that influence calpain activity in muscle and meat. Department Seminar, Food Science Department, Nanjing University, Nanjing China, October 14, 2019.

Teaching Modules for the Meat Industry

1. Lonergan, S. M. 2001. Factors that influence fresh pork quality. *Module presented and made available to National Pork Board Agriculture Educators.*
2. Lonergan, S. M. 2002. Further Processed Pork Products. *Module presented and made available to National Pork Board Agriculture Educators.*

Abstracts Presented at International, National and Regional Meetings

1. Lonergan, S. M., J. G. Sebranek and K. J. Prusa. 1991. Effect of recombinant porcine somatotropin (pST) on porcine adipose tissue composition. Presented at the Annual Meeting of the Institute of Food Technologists, Dallas, Texas. June.
2. Piedrafita, J., L. L. Christian and S. M. Lonergan. 1991. Fatty acid profiles in three stress genotypes of swine and their relationship to quantitative and qualitative carcass traits. *J. Anim. Sci.* 69 (Suppl. 1):192.
3. Lonergan, S. M., M. H. Johnson and C. R. Calkins. 1992. A fluorescent micro-assay for μ - and m-calpain. *J. Anim. Sci.* 70 (Suppl. 1):219.

4. Pringle, T. D., S. M. Lonergan, C. R. Calkins, S. J. Jones, P. S. Miller and M. Koohmaraie. 1993. Temporal response of rabbits to β -adrenergic agonist feeding: tissue weight, calpains and calpastatin activities, and nucleic acid and protein concentration. *Proc. Recip. Meat Conf.* 46:76.
5. Doumit, M. E., S. M. Lonergan, J. A. Arbona, J. Killefer, and M. Koohmaraie. 1995. Development of an ELISA for quantification of skeletal muscle calpastatin. *J. Anim. Sci.* 73 (Suppl. 1):166.
6. Koohmaraie, M., S. D. Shackelford, T. L. Wheeler, S. M. Lonergan, and M. E. Doumit. 1995. A muscle hypertrophy condition in lamb (callipyge): Characterization of effects on muscle growth and meat quality traits. *J. Anim. Sci.* 73 (Suppl. 1):158.
7. Lonergan, S. M., M. D. Bishop, and M. Koohmaraie. 1995. Restriction fragment length polymorphisms at the bovine calpastatin locus. *J. Anim. Sci.* 73: (Suppl. 1):66.
8. Huff-Lonergan, E., S. Harris, D. Kuhlbers, S. Jungst, S. Lonergan and W. B. Mikel. 1997. Selection for lean growth efficiency: Effects on selected fresh and processed pork quality attributes. *Proc. Recip. Meat Conf. Volume 50*:160.
9. Huff-Lonergan, E., D. L. Kuhlbers, S. M. Lonergan, W. B. Mikel, S. B. Jungst, S. Dale and V. D. Reed. 1997. Pork quality decline in response to selection for lean growth efficiency in the absence of the halothane gene. *J. Anim. Sci.* 75 (Suppl. 1):176.
10. Huff-Lonergan, E., S. M. Lonergan, L. A. Kriese and B. R. Wiegand. 1997. Postmortem protein degradation and calpastatin activity in top loin steaks from Brangus cattle. *J. Anim. Sci.* 75 (Suppl. 1):176.
11. Lonergan, S. M., E. Huff-Lonergan and D. M. Payne. 1997. Isolation and partial characterization of a high molecular weight bovine skeletal muscle calpastatin. *FASEB J.* 11:A58.
12. Lonergan, S. M., E. Huff-Lonergan, B. R. Wiegand and L. A. Kriese. 1997. The relationship of calpastatin activity to Warner-Bratzler shear force during aging of top loin steaks from Brangus cattle *J. Anim. Sci.* 75 (Suppl. 1):12.
13. Wiegand, B. R., S. M. Lonergan, L. A. Kriese, W. B. Mikel, and J.A. Little. 1997. Standardization of Warner-Bratzler shear data and prediction of sensory panel tenderness scores in top loin steaks from Brangus cattle. *J. Anim. Sci.* 75 (Suppl. 1):12.
14. Huff-Lonergan, E., D. L. Kuhlbers, S. M. Lonergan, and S. B. Jungst. 1998. Characterization of pork quality in response to five generations of selection for lean growth efficiency. *J. Anim. Sci.* 76 (Suppl. 1):151.
15. Huff-Lonergan, E., S. E. Harris, D. L. Kuhlbers, S. M. Lonergan, and S. B. Jungst. 1998. Characterization of processed pork in response to five generations of selection for lean growth efficiency. *J. Anim. Sci.* 76 (Suppl. 1):152.
16. Kuhlbers, D. L., S. B. Jungst, E. Huff-Lonergan, S. M. Lonergan and B. L. Anderson. 1998. Carcass characteristics of Landrace pigs from a line selected for loin eye area using real-time ultrasound technology. 1998. *J. Anim. Sci.* 76 (Suppl. 1):52.
17. Lonergan, S. M., E. Huff-Lonergan, and L. A. Kriese-Anderson. 1998. Characterization of factors associated with postmortem tenderization of top loin steaks from Brangus cattle. *J. Anim. Sci.* 76 (Suppl. 1):154.
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206. Schulte, M.D., K.G. Hochmuth, E.M. Steadham, S.M. Lonergan, S.L. Hansen, and E. Huff-Lonergan. Influence of zinc and ractopamine hydrochloride supplementation on the proteome of early postmortem beef longissimus thoracis muscle. 2020 International Meat Science and Technology and Reciprocal Meat Conference Virtual Meeting. August 3-6, 2020.

TEACHING

Teaching Assignments and Responsibilities

Course	Semester	Credits	Description	Number of students
Animal Science 114L; Working with Animals	S99, S00, F00, S01	1	A hands-on introductory course in skills for proper care and management of domestic animals. Husbandry skills including health observation, animal movement, identification, management procedures, and environmental assessment are covered.	590
Animal Science 490; Special Problems	S99, S00, F00, S01, F02, S05 F05, F06, F09, S10, F10, S11	(1-2)	Independent Study in Animal Science.	30
Animal Science 497; Teaching Experience in Animal Science	F06, F07, F08, S08, F09, F11, S12	(1-2)	Teaching Experience in Animal Science.	9
Animal Science 371; Meats for Food Service	S00	2	Meat and poultry for hotel, restaurant, and institutional use. Meats science topics include: structure, composition, cutting, preparation, selection, sanitation, portion control, cooking and carving.	15
Animal Science 684; Seminar in Meat Science	S00, S01, S02, S07 S15, S20, S21	1	Discussion and evaluation of current topics and summary of current research programs in meat science.	65
Animal Science 270; Foods of Animal Origin	F01, S02, F02, S03, F03, S04, F04, S05, F05, S06, F06, F07, F08, S09, F09, S10, F10, S11 F11, S12, F12 SS13, F13, S14, F14, S15 S16, S17, S18 S19, S20, S21	3 (2 credits starting in F11)	Principles, practices and issues impacting the production, processing and preservation of safe, wholesome, nutritious, and palatable meat, dairy, and egg products. Product evaluation, classification, value determination and utilization.	2618
Animal Science 270; Foods of Animal Origin Online	S12, SS 13 SS18, SS 20	2	Principles, practices and issues impacting the production, processing and preservation of safe, wholesome, nutritious, and palatable meat, dairy, and egg products. Product evaluation, classification, value determination and utilization.	80

Animal Science 360; Fresh Meats	F15, F16, F17, F18, F19, F20	3	Impact of muscle structure, composition, rigor mortis, inspection, fabrication, handling, packaging and cooking on the palatability, nutritional value, yields, market value, and safety of fresh meat.	140
Globe 495 Global Resource Systems Study Abroad Course Preparation	S09, S10 S11, S12 S13, S14 S16, S19	1 (2 cr starting S 19)	Preparation for GLOBE 497	58
Globe 497 Dean's Leadership Program Abroad: Global Agriculture and Food Workshop: Rome	SS09 SS10 SS12 SS 14 SS16 SS 19	3	An integrated agricultural and food production and policy program that allows students to assess, analyze and evaluate complex, country-specific situations and to develop; their skills, knowledge and abilities via team-orientated projects that involve complex issues such as development of effective foreign food aid and agricultural and food production	46
Animal Science 501: Survey of Animal Science Disciplines	F14, F15 F16, F17 F18, F19	1	An orientation for Animal Science program students and survey of disciplines within the Animal Sciences.	117

Contributions to other Courses

Course	Semester	Credits	Description	Contribution
Animal Science 470/460; Processed Meats	S03, S04, S05, S07, S17	3	Physical, chemical and biological properties of meat important to processed meat product characteristics.	Two lectures in the non-meat ingredient unit. One lecture during thermal processing unit.
Animal Science 570; Advanced Meat Science & Applied Muscle Biology	S99, S01, S05, S16, S18	3	Antemortem and postmortem factors impacting composition, structure, and chemistry of muscle and meat.	Prepared and delivered three lectures on biology of muscle proteinases.
FSHN 613	F05, F07, F09, F11, F13	3	Properties of proteins found in milk, eggs, meat, legumes and cereal grains. Effect of processing on food proteins.	Prepared and delivered 2-8 lectures on muscle protein chemistry.
Animal Science 670	F11	3	Ultrastructure of muscle; chemistry, structure, function, and molecular biology of muscle proteins. Molecular aspects of muscle contraction, development and turnover. Cytoskeletal proteins and dynamics.	Prepared and delivered 2 lectures on protein turnover in muscle.

Undergraduate Student Advising

Animal Science and Animal Science Pre-Veterinary Medicine Majors
1999-present Advised 25-30 Undergraduate Students

Specific Undergraduate Student Service Activities

Year	Activity
1996-1998	Auburn University Animal and Dairy Science Curriculum Committee
1997	Official Committee, Southeast Regional Invitational Meats Judging Contest.
1998	Adviser, Auburn University Block and Bridle Club
1998 & 1999	Official Committee, ISU Intercollegiate Invitational Meats Judging Contest.
1999 & 2000	Co-Coordinator of American Society of Animal Science Midwest Section Academic Quadrathlon Meat Science Laboratory Practical Exam.
1999	Adviser, Block and Bridle Animal Science Career Day
1999-present	Adviser, Block and Bridle Meat Industry Interest Group
1999-present	Adviser, Block and Bridle Meat Industry Career Night "Meat Your Future"
1999-2005 2008-2017	Board of Directors, FarmHouse Fraternity Iowa Association
2000	Adviser, Block and Bridle Freshmen Barbecue
2000-2007	National Meat Association Scholarship Committee
2004-2007; 2010-2012; 2014-2015	Adviser, Animal Science Banquet Committee
2005-2007	Phi Kappa Phi College of Agriculture Liaison
2006-2009	Nutritional Sciences Council Griffith Scholarship Committee Chair
2003-present	Discussion Leader, Destination Iowa State "Your Passport to Success" Session
2003-2008	Adviser, Collegiate Beef Team
2004-2008; 2010-2011	Judge for the Borlaug Student Poster Competition
2009-2017	Treasurer, FarmHouse Fraternity Iowa Association
2009-present	Chair, Iowa FarmHouse Fraternity Foundation Council
2010-2011	January Destination Iowa State Faculty Roundtable
2010	Coordinator of American Society of Animal Science Midwest Section Academic Quadrathlon Meat Science Laboratory Practical Exam
2010	Keynote Speaker at Cardinal Key Initiation
2010-2012	Adviser, College of Agriculture and Life Sciences Student Council
2011-present	Block and Bridle Scholarship Selection Committee
2011-present	Block and Bridle Summer Sausage and Cheese Sales Committee Adviser
2011-present	Member of the College of Agriculture and Life Sciences Louis Thompson Advising Academy
2011-2012; 2014-present	ISU Orientation: Faculty Roundtable for Parents of incoming students in the College of Agriculture and Life Sciences
2017-2018	ISU Homecoming Yell Like Hell Finalist Judge
2018	ISU Homecoming Cardinal Court Judge
2019-Present	ISU Center for Excellence in Learning and Teaching Advisory Board (Vice chair 2020)
2019	American Meat Science Association Reciprocal Meat Conference M.S. Student research poster competition judge.
2020	ISU Animal Science Block and Bridle Club Senior Advisor

Undergraduate Teaching program funded projects

Project leaders	Title	Sponsor	Total	Year
Steven Lonergan Jodi Sterle Shelley Taylor	Expanding the Classroom in Animal Science: Study of Animal Agriculture in South Korea	ISU Council on International Programs	\$5,000	2012
Steven Lonergan Jodi Sterle Shelley Taylor	In depth study of domestic and global demand for meat in South Korea	Edith D. Lagerstrom Beef Cattle Management and Entrepreneurship Fund	\$10,000	2012-2013

Presentations Emphasizing Student Teaching and Learning

- Sebranek, J. G., C. B. Frye and S. M. Lonergan. 1989. The use of special projects in meat science teaching laboratories. Reciprocal Meats Conference. Guelph, Ontario. June, 1989.
- Sebranek, J. G., S. M. Lonergan. and M. Marchello. 1990. Designing a quality assessment program for newly developed products. Reciprocal Meats Conference. Starkville, MS. June, 1990.
- Lonergan, S. M., J. Leheska, and D. McKenna. 2003. So you want to go to graduate school: What to consider. Proceedings 56th Reciprocal Meats Conference. 65-66. June 17, 2003, Columbia, MO.
- Lonergan, S. M., J. Killefer, G. Hilton, J. Henson, and J. Savell. 2010. Syllabus Swap. Proceedings of the 65th Reciprocal Meats Conference. June 20, 2010. Lubbock Texas.
- Lonergan, S. M., C. Bain, J. Colletti, S. Taylor, G. Zdorkowski. 2012. Enhancing learning in the international arena. Proceedings of the 65th Reciprocal Meats Conference. June 20, 2012. Fargo, North Dakota.
- Lonergan, S. M., E. Huff-Lonergan. 2017. Preparing for and effectively conducting a research project. Proceedings of the 70th Reciprocal Meat Conference, June, 2017
- Lonergan, Steven. Developing a teaching philosophy statement and starting with “why?”. Iowa State University Horticulture department graduate teaching seminar. April 16, 2019.
- Lonergan, Steven. Developing a teaching philosophy statement and starting with “why?”. Iowa State University Horticulture department graduate teaching seminar. April 15, 2020.
- Lonergan, Steven. 2020. Career exploration: Careers in Academia. American Meat Science Association Student Leadership Conference. December 18, 2020.

EXTENSION/PROFESSIONAL PRACTICE

Iowa State University Processed Meat Short Course Program Instructor

ISU Cured Meat Short Course (1999-2020). Twenty courses, 1230 participants.

ISU Dry and Semi-Dry Sausage Short Course (1999-2019). Sixteen courses, 800 participants.

ISU Basic Sausage Short Course (1999-2018). Eighteen courses, 1070 participants.

ISU Sausage and Processed Meat Short Course (1999-2019). Nineteen courses, 1420 participants.

ISU Spanish Sausage and Processed Meats Short Course (1999-2003). Three courses, 165 participants.

ISU and ConAgra Meat and Poultry Training (2001-2006) Eighteen courses, 719 participants.

ISU and Smithfield Meat and Poultry Training (2007-2019) Fifty courses, 1600 participants

National Pork Board Pork 101™ Program

Pork 101™ Short Course Instructor (1999-2018) Seventeen courses, 650 participants.

Pork 505 National Curriculum Planning (2002)

Service on Industry Committees

Instructor for National Pork Board “Train the Trainer” Programs 2004-2007

Dr. Lonergan served as an instructor for the National Pork Board Trucker Quality Assurance “Train the Trainer” program. The program prepares instructors to carry out required training programs for those handling and transporting market swine. Trainers that complete the program (approximately 200) are responsible for training over 10,000 individuals in the NPB TQA program.

National Pork Industry Research and Extension Priorities 2003

Dr. Lonergan served on the writing committee for the National Pork Industry Research and Extension Strategies Publication in 2003. This five-member committee was selected from a group of eighty individuals representing all facets of the pork production chain. Dr. Lonergan represented the pork product segment of the industry on this committee.

National Pork Board Pork Quality Solutions Team 1998-2002; 2004-2007

Dr. Lonergan was a regular attendee and presenter at the National Pork Board Pork Quality Solution Team meetings from 1998-2002. He was appointed to the Quality Solutions Team in 2003. This group serves in an advisory role to recommend research and extension priorities for pork quality programs for the National Pork Board.

2002 National Pork Quality Benchmarking Study Review Meeting

Dr. Lonergan provided an external review and summary at a meeting held to discuss the national quality benchmarking study funded by the National Pork Board. Attendance was limited to companies who helped underwrite the research and three individuals from the academic community with expertise in the field.

Youth Activities

2006 Livestock Judging Camp

2001-2019 State Fair Cattle, Sheep and Swine champion livestock carcass exhibition

Editorial and Referee Responsibilities for Scientific Journals

Journal of Animal Science, Division/Section Editor (2011-present)

Encyclopedia of Meat Science, 2nd Edition, Editorial Board (2011-2013)

Journal of Animal Science Editorial Board (2001-2004; 2007-2011)

Meat Science Journal (Published by Elsevier) Editorial Board (2007-2015)

Peer reviewer for most major scientific journals within his discipline. Over the past four years, these have included:

Journal of Animal Science

Animal Product Section

Growth and Development Section

Applied Animal Science Section

Journal of the Science of Food & Agriculture

Journal of Proteomics

Meat Science

Animal Genetics

Research Grant Reviews

USDA- National Research Initiative Competitive Grants Program

Value-added products, Food characterization/process/product research program (1999-2006)

Animal growth and development program (1999-2006)

USDA- Small Business Innovation Research Program (2003-2005)

USDA National Institute of Food and Agriculture's Exploratory Research program of the Agriculture and Food Research Initiative

Programmatic and Organization Responsibilities for Scientific Conferences

American Society of Animal Science Meat Science and Muscle Biology Program Committee Chair (2000)

American Society of Animal Science, Midwest Section, Growth, Development, Muscle Biology, and Meat Science Committee Chair (2003)

American Society of Animal Science National Meeting Program Chair (2008)

American Meat Science Association Annual Meeting (Reciprocal Meat Conference) Program Chair (2011)

Asian-Pacific Congress of Meat Science and Technology Scientific Committee (2019)

International Congress of Meat Science and Technology Conference Chair (2020)

Responsibilities in Multi-State Regional Projects

Iowa State University representative to the Western Regional Project W1177 “Improve meat quality, safety and value at all levels of the supply chain to enhance competitiveness and to evaluate economic impacts of these new approaches”. Dr. Lonergan served in this role from 2001-2006. He hosted the 2005 annual meeting.

International Activities

Iowa Department of Economic Development Beef Mission to China, September 2001

Dr. Lonergan participated with a group of Iowa Agriculture leaders in the Iowa Department of Dr. Lonergan published a briefing paper discussing the mission and market potential.

U.S. Meat Export Federation Presentations

Dr. Lonergan served as a pork processing discussion leader for U. S. MEF visiting groups from China, Japan, Taiwan, Korea, Russia, Bulgaria, Poland, and the Philippines. (1999-2005)

International Congress of Meat Science and Technology (2005) (Baltimore, MD). Dr. Lonergan served as a session chair and discussion leader for Muscle Biochemistry section at the 2005 ICoMST.

Peer Reviewer Evaluation of Research and Technical Development of Agroscope Liebefeld-Posieux (ALP), Switzerland 18 – 22 September 2006

Official Opponent, Final Dissertation Defense of MSc Maria Ylä-Ajos. University of Helsinki, Helsinki, Finland.

International Congress of Meat Science and Technology, 2007 meeting (Beijing, China). Dr. Lonergan served as a session chair and discussion leader for Meat Quality section at the 2007 ICoMST.

Screening and review committee for Faculty Search (Associate Professor in System Biology in Meat Science) in Food Science Department at University of Copenhagen. (2008)

Instructor for Global Resource Systems Course: 2009. (GLOBE 495X and 497X). Instructor for eight students with food security internships at FAO and Bioversity International (Rome, Italy)

Host of Luigi Pompino, PhD Student from University of Copenhagen for research at Iowa State (2009).

Instructor for Global Resource Systems Course: 2010. (GLOBE 495 and 497). Instructor for seven students with food security internships at FAO and Bioversity International (Rome, Italy)

Host of Antonella della Malva, PhD student from the University of Foggia (Italy) for research at ISU (2010).

Host of Pedro Paulino, Assistant Professor from Universidade Federal de Viçosa, Minas Gerais, Brazil, for research at ISU (2011-2012)

Instructor for Global Resource Systems Course: 2012. (GLOBE 495 and 497). Instructor for seven students with food security internships at FAO (Rome, Italy)

Host of Milla Bigi, PhD Student from University of Bologna, Italy. (2013)

Course director and founder of Animal Science Study Abroad trip to South Korea, 2013.
 Instructor for Global Resource Systems Course: 2014. (GLOBE 495 and 497). Instructor for class with food security internships at FAO (Rome, Italy)
 Instructor for Global Resource Systems Course: 2016. (GLOBE 495 and 497). Instructor for class with food security internships at FAO (Rome, Italy)
 Project evaluator for Fulbright program in Russia (2016).
 Instructor for Global Resource Systems Course: 2019. (GLOBE 495 and 497). Instructor for class with food security internships at FAO (Rome, Italy)
 Host of Yubin Zhang, College of Food Science and Engineering, Gansu Agricultural University, Gansu, China (2019-20)

Membership in Professional Societies

American Society of Animal Science (1989-present)

1998-1999 Meat Science/Muscle Biology Session Chair, National Meetings
 1998-2000 Meat Science/Muscle Biology Program Committee
 2000 Meat Science/Muscle Biology Program Committee Chairman
 2001 Growth, Development, Muscle Biology, and Meat Science Symposium Session Chair
 2001-2003 Journal of Animal Science Editorial Board
 2001-2003 Midwest Section Growth, Development, Muscle Biology, and Meat Science Committee
 2003 Midwest Section Growth, Development, Muscle Biology, and Meat Science Committee Chair
 2005-2008 Midwest Section Director
 2006 Midwest Section Teaching Award Selection Chair
 2005-2008 ASAS Board of Directors
 2006 ASAS Animal Management Award Committee Chair
 2006-2007 ASAS Publication Committee (Chair 2006-2008)
 2006-2008 ASAS Membership Committee
 2007 ASAS/ADSA/PSA Joint Annual Meeting, Program Vice-Chair
 2008 ASAS/ADSA Joint Annual Meeting, Program Chair
 2011 ASAS/ADSA Strategic planning committee for Joint Annual Meeting
 2012-pres. Journal of Animal Science Division/Section Editor

American Meat Science Association (1989-present)

1991 Teaching Poster Committee
 1993 Reciprocal Meat Conference Host committee
 1991-1995 Graduate Student Programs Committee
 1995-1996 Long Range Planning Member Services Sub-Committee
 1996 Graduate Student Research Poster Committee
 1997-1998 Distinguished Teaching Award Selection Committee
 1997 Muscle Biochemistry Program Committee
 1997-2000 Youth Extension Education Subcommittee of Education/Outreach Committee
 1998-1999 Muscle Biochemistry/ Growth Biology Program Committee
 1999-2001 Request for Proposal Administration Committee (Chair 2000-2001)

2000-2003 Research Priority Committee (Chair 2002-2003)
2004-2007 Distinguished Research Award Selection Committee
2004-2007 Scientific Information Committee
2006 Session Chair/Facilitator, 2006 Reciprocal Meat Conference
2007-2010 Meat Science Journal Publication Committee
2009 Distinguished Teaching Award Selection Committee, Chair
2009-2011 Board of Directors
2011 National Meeting (RMC) Program Chair
2012-2020 RMC Planning Committee
2012-14 Nominations Committee
2012-2015 AMSA Quiz Bowl Committee
2014-2020 Chair of 2020 International Congress of Meat Science and Technology
2019 Graduate Student Research Poster Competition Judge, 2019 RMC
2020 Graduate Student Scholarship Selection Committee
Institute of Food Technologists (1989-1995)
2012 IFT Muscle Foods Division Graduate Student Paper Competition Judge
National Meat Association
2000-2008 Scholarship Committee