Elisabeth Huff-Lonergan

Degrees Held

Ph.D.	Muscle Biology and Meat Science, Minor in Biochemistry	Iowa State University	1995
M.S.	Meat Science	Iowa State University	1991
B.S.	Food Science and Nutrition Cum Laude	University of Missouri/Columbia	1988

Summary of Professional Experience

July 2008-Present - Iowa State University, Ames, Iowa, Professor, Meat Science and Muscle Biology, Animal Science Department. Appointment: 75% Research, 25% Teaching (2008-2012) Current -50% Research, 25% Teaching, 25% Administration (Administration as Faculty fellow- 2012-2015)

July 2004 – June 2008 - Iowa State University, Ames, Iowa, Associate Professor, Meat Science and Muscle Biology, Animal Science Department. Appointment: 75% Research, 25% Teaching

Oct. 1998 – June 2004 - Iowa State University, Ames, Iowa, Assistant Professor, Meat Science and Muscle Biology, Animal Science Department. Appointment: 75% Research, 25% Teaching

1995 to 1998 - Auburn University, Auburn, Alabama, Assistant Professor, Meat Science and Muscle Biology. Department of Animal and Dairy Sciences. Appointment: 70% research, 30% teaching

1989 to 1995 - Iowa State University, Ames, Iowa, Research Assistant, Animal Science Department.

1989 to 1994 - Iowa State University, Ames, Iowa, Teaching Assistant, Animal Science Department

ISU Personnel Record

Member of the LEAD21 class of 2016

Member of the Emerging Leaders Academy 2013-2014

ADVANCE Faculty Fellow – Iowa State University – 2012-2015. In charge of University-wide initiatives to assist in the recruitment and retention of women and under-represented minorities in the faculty ranks on campus. 25% Appointment in Provost's Office

ADVANCE Professor for the Department of Animal Science-August 2008-10 (NSF funded initiative) – responsible for facilitating the identification and implementation of new policies and practices to enhance departmental communication and workplace satisfaction and to work with College and University level administrators/researchers in evaluating the effectiveness of the changes.

2x Member of the College of Agriculture and Life Sciences Promotion and Tenure Committee – 2010-2012, 2017-2019

2x – Chair of the College of Agriculture and Life Sciences Promotion and Tenure Committee – Fall 2012 and in the Fall of 2019

Chair of the Animal Science Curriculum Committee – 2016-2020

Member of the Animal Science Graduate Faculty
Member of Meat Science/Muscle Biology Faculty Group

Professional Affiliations and Activities

American Meat Science Association – Member – 1989-present
Editor-in-Chief of Meat and Muscle Biology (official journal - American Meat Science Assn.) 2019-present
Editorial Board - Meat and Muscle Biology 2016-2018
Publication Task force – Chair – 2006-2008; member 2006-present
Board of Directors – Member – 2004-2006 – Ex-Officio (non-voting) member 2019-Present
Research Award Committee – 2001-2003
Achievement Award Committee Chairman, 2003
International Relations Committee Member, 2002
Graduate Student Poster Committee - *Chairman* - 1997
Coordinated the Graduate Student Poster Competition (Master's and Ph.D. level) at the Association's Annual Meeting
Annual Meeting Program Committee-1996-1997 - Carcass Composition/Fresh Meat – *Member*
Annual Meeting Program Committee-1995-1996 - Biochemistry Committee – *Member*
Annual Meeting Program Committee-1993-1994 - Graduate Student Programs Committee - *Member*
Annual Meeting Program Committee-1992-1993 - Tenderness and Textural Analysis Invited Poster Committee – *Member*
Annual Meeting Program Committee-1990-1991 - Muscle Biochemistry Committee – *Member*

American Society of Animal Science – *Member* – 1989-present
Board of Directors for the American Society of Animal Science – Member, 2013-2016
Publications Committee – Chair, 2013-2016
International Committee – Chair, 2013-2016
Cell Biology Symposium Committee – Member 2007-2009
Meat Science and Muscle Biology Program Committee Member, 2002-2004
Chair 2005 – Organized a symposium "Novel Technologies in Muscle Biology/Fresh Meat Research"
Meats Research Award Committee, 2000 – 2003, 2011-12

Midwest Section of the American Society of Animal Science – *Member* – 1989-present
Academic Quadrathlon Committee, 2001-2004.

Institute of Food Technologists – *Member* – 1988-present
Muscle Foods Division – *Member*
Muscle Foods Division Committee Member-at-Large. 1999-2001
Iowa Section – *Member*

American Association for the Advancement of Science (AAAS) – member since 2019

Sigma Xi – *Member* –1992-2004

Scholarship

Awards

Distinguished Teaching Award - American Meat Science Association –– 2020. Highest teaching focused award this international society gives. *(this award makes her the first to be recognized by 4 of the AMSA's major awards – Distinguished Teaching, Distinguished Research, Fellow (Signal Service Award) and Achievement Award)*

Iowa State University Regents Award for Faculty Excellence - 2016

Diversity Award - Iowa State University College of Agriculture and Life Sciences– 2015.

LEAD21 2015-2016 Cohort member

Signal Service Award –American Meat Science Association – 2014. This award is the *Fellow award for the American Meat Science Association*. Given to those members who over their careers have made a significant impact on the association and on the discipline both nationally and internationally.

Institute of Food Technologists (IFT) Fellow – 2013. The award is given to only the top 0.3% (maximum) of the membership. There are currently over 4000 professional members in IFT

University Award for Mid-Career Research Achievement - Iowa State University –- 2010

Distinguished Research Award -American Meat Science Association –– 2009. Highest research focused award this international society gives. (first woman to be awarded this recognition) - 2009

Meat Science Research Award (International Career Award) American Society of Animal Science –– July 2007 (first woman to be awarded this recognition)

Outstanding Young Scientist Award in Research, Midwestern Section – 2005. American Society of Animal Science. –

Achievement Award American Meat Science Association - 2002

Early Achievement in Research Award, Iowa State University College of Agriculture -, 2001

Professional Recognitions/Key Society Service Appointments

Editor-in-Chief of Meat and Muscle Biology (official journal - American Meat Science Assn.) 2019-present – had primary responsibility in for restructuring the journal and finding a new publisher in 2019 after ACSESS left the publishing business.

Meat and Muscle Biology - journal Editorial Board - 2016-present

Meat Science (Elsevier Press – and official journal of the American Meat Science Association) – ***Associate Editor***. Handled approximately 300 articles per year. 2008-2014 (first, and still the only, woman associate editor of that journal)

Animal Frontiers – (International Animal Science Review/Current Events Journal) member of the management board 2013-2015

Animal Frontiers – (International Animal Science Review/Current Events Journal) Invited Guest Editor (with Steven Lonergan) for the October 2012 issue on meat.

FASEB Summer Conference – Biology of Calpains in Health and Disease. Invited to chair the session titled "Calpains in Muscle" –held July 21-26, 2013

Journal of Animal Science – Editorial Board Member, 1997-2000, 2008-2010

Fleischwirtschaft – Editorial Board Member – 2008-2012

Journal of Muscle Foods – Editorial Board Member, 2000-2011

FASEB Summer Conference – Biology of Calpains in Health and Disease. Invited to chair the session titled "Calpains in Animal Science –held July14-19, 2007

6 x USDA/NRI/AFRI Grant Review Panel Member – Panel 71.1 Improving Food Quality and Value – 2005, 2007, 2011. Program A1231 – Animal Nutrition, Growth and Lactation – 2016, 2019, 2020

Iowa State University Graduate Council – Elected as Biological and Agricultural Sciences representative – 2006-2009.

American Meat Science Association – Elected to serve on the Board of Directors 2004-2006

Cold Spring Harbor Labs – Selected to be one of 16 participants in a 2 week, intensive workshop on cutting-edge technologies in Proteomics. Selected from a pool of over 200 applicants world-wide in 2004

Publications and Research Presentations

ISI Web of Science, Accessed Feb 4, 2020: Cited 5047 times, (4640 times without self-citations), ave citations per article is 24.86, h-index = 32, Overall cited an average of 194.12 times per year

Google Scholar Metrics, Accessed Feb 4, 2020 – 8449 citations (3868 since 2015), h-index = 41, i10-index=70, Cited 739 times in 2019.

Peer-Reviewed Publications

1. Huff, E.J., and F.C. Parrish, Jr. 1993. Bovine longissimus muscle tenderness as affected by postmortem aging time, animal age and sex. J. Food Sci. 58:713-716.
2. Huff-Lonergan, E., F.C. Parrish, Jr., and R.M. Robson. 1995. Effects of postmortem aging time, animal age, and sex on degradation of titin and nebulin in bovine longissimus muscle. J. Anim. Sci. 73:1064-1073.. **In June of 2007 this paper was the most frequently read meat science article in the Journal of Animal Science and was number 12 overall.**
3. Huff-Lonergan, E., T. Mitsuhashi, D.D. Beekman, F.C. Parrish, Jr., D.G. Olson, and R.M. Robson. 1996. Proteolysis of specific muscle structural proteins by µ-calpain at low pH and temperature is similar to degradation in postmortem bovine muscle. J. Anim. Sci. 74:993-1008. **In February of 2007 this paper was the most frequently read meat science article in the Journal of Animal Science. In July of 2007 this paper was in the top 50 most cited papers in the Journal of Animal Science across all subjects (rank = 47).**
4. Huff-Lonergan, E., T. Mitsuhashi, F.C. Parrish, Jr., and R.M. Robson. 1996. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis and western blotting comparisons of purified myofibrils and whole muscle preparations for evaluating titin and nebulin in postmortem bovine muscle. J. Anim. Sci. 74:779-785.
5. Montgomery, J.L., F.C. Parrish, Jr., D.C. Beitz, R.L. Horst, E.J. Huff-Lonergan, and A.H. Trenkle. 2000. The use of vitamin D_3 to improve beef tenderness. J. Anim. Sci. 78:2615-2621.
6. 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. J. Anim. Sci. 79:666-677.
7. 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. J. Anim. Sci. 79:2075-2085.
8. 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. J. Muscle Foods 12:121-136. (approximate percentage contribution – 30%).
9. Malek, M., J.C.M. Dekkers, H.K. Lee, T.J. Baas, K. Prusa, E. Huff-Lonergan, and M. Rothschild. 2001. A molecular genome scan analysis to identify chromosomal regions influencing economic traits in the pig. II. Meat and muscle composition. Mammalian Genome 12:637-645.
10. Wiegand, B.R., F.C. Parrish, Jr., D.G. Morrical, and E. Huff-Lonergan. 2001. Feeding high levels of vitamin D_3 does not improve the tenderness of callipyge lamb loin chops. J. Anim. Sci. 79:2086-2091.
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. Effect of dietary restrictions on growth performance and carcass quality of pigs selected for lean growth efficiency. Livest. Prod. Sci. 74:93-102
12. Huff-Lonergan, E., T.J. Baas, M. Malek, J. Dekkers, K. Prusa, and M.F. Rothschild. 2002. Correlations among selected pork quality traits. J. Anim. Sci. 80:617-627.

13. Helman, E.E., E. Huff-Lonergan, G.M. Davenport, and S.M. Lonergan. 2003. Effect of dietary protein on calpastatin in canine skeletal muscle. J. Anim. Sci. 81:2199-2205.
14. Davis, K.J., J.G. Sebranek, E. Huff-Lonergan, and S.M. Lonergan. 2004. The effects of aging on moisture-enhanced injected pork loins. Meat Science. 66:519-524.
15. Davis, K.J., J.G. Sebranek, E. Huff-Lonergan, and S.M. Lonergan. 2004. The effects of irradiation on quality of injected fresh pork loins. Meat Science. 67:395-401.
16. Foote, M.R., R. L. Horst, E.J. Huff-Lonergan, A.H. Trenkle, F.C. Parrish, Jr., and D.C. Beitz. 2004. The use of vitamin D_3 and its metabolites to improve beef tenderness. J. Anim.Sci. 82:242-249.
17. Melody, J.L., S.M. Lonergan, L.J. Rowe, T.W. Huiatt, M.S. Mayes, and E. Huff-Lonergan. 2004. Early postmortem biochemical factors influence tenderness and water-holding capacity of three porcine muscles. J. Anim.Sci. 82: 1195-1205.
18. Rowe, L.J., K.R. Maddock, S.M. Lonergan, and E. Huff-Lonergan. 2004. Influence of early postmortem protein oxidation on beef quality. J. Anim. Sci. 82:785-793.
19. Kuber, P.S., J.R. Busboom, E. Huff-Lonergan, S.K. Duckett, P.S. Mir, Z. Mir, R.G. McCormick, M.V. Dodson, C.T. Gaskins, J.D. Cronrath, D. J. Marks, and J.J. Reeves. 2004. Effects of biological type and dietary fat treatment on factors associated with tenderness: I. Measurements on beef longissimus muscle. J. Anim. Sci. 82:770-778.
20. Rowe, L.J., K.R. Maddock, S.M. Lonergan, E. Huff-Lonergan. 2004. Oxidative environments decrease tenderization of beef steaks through inactivation of μ-calpain. J. Anim. Sci. 82:3254-3266.
21. Cummins, K.A., S.M. Lonergan, and E. Huff-Lonergan. 2004. Effect of dietary protein depletion and repletion on skeletal muscle calpastatin during early lactation. J. Dairy Sci. 87:1428-1431.
22. Wertz, A.E., T. Knight, A. Trenkle, R. Sonon, R.L. Horst, E.J. Huff-Lonergan, and D.C. Beitz. 2004. Feeding 25-Hydroxyvitamin D_3 to improve beef tenderness. J. Anim. Sci. 82:1410-1418.
23. Maddock, K. R., E. Huff-Lonergan, L. J. Rowe, and S. M. Lonergan. 2005. Effect of pH and ionic strength on μ- and m-calpain inhibition by calpastatin. J. Anim. Sci. 83:1370-1376.
24. Huff-Lonergan, E., and S.M. Lonergan. 2005. Mechanisms of water-holding capacity of meat: The role of postmortem biochemical and structural changes. Meat Sci. 71:194-204. (**In the period of 2005-2009, this paper was the fourth most downloaded paper for the journal Meat Science. As of May/June 2015, this highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year in the ISI Essential Science Indicators**
25. Gardner, M.A., E. Huff-Lonergan, L.J. Rowe, C.M. Schultz-Kaster, and S.M. Lonergan. 2006. Influence of harvest processes on pork loin and ham quality. J. Anim. Sci. 84:178-184.
26. Bee, G., C. Biolley, G. Guex, W. Herzog, S.M. Lonergan, and E. Huff-Lonergan. 2006. Effects of available dietary carbohydrate and pre-slaughter treatment on glycolytic potential, protein degradation and quality traits of pig muscles. J. Anim. Sci. 84:191-203.
27. Carlin, K. R., E. Huff-Lonergan, L. J. Rowe, and S. M. Lonergan. 2006. Effect of oxidation, pH, and ionic strength on calpastatin inhibition of μ- and m-calpain. J. Anim. Sci. 84:925-937.
28. Zhang, W.G., E. Huff-Lonergan, and S.M. Lonergan. 2006. The role of integrin and desmin in water-holding capacity in pork. Meat Science 74:578-585
29. Aryeetey, R., G.S. Marquis, E. Colcraft, O. Sakyi-Dawson, A. Lartey, B. Ahunu, E. Canacoo, L.M. Butler, M.B. Reddy, H.H. Jensen, and E. Huff-Lonergan. 2006. Constraints on the use of animal source foods for young children in Ghana: A participatory rapid appraisal approach. Ecology of Food and Nutrition 45:351-377.

30. Custodio, M. G., W. J Powers, E. Huff-Lonergan, M.A. Faust, J. Stein. 2006. Growth, pork quality, and excretion characteristics of pigs fed Bt corn or non-transgenic corn. Can. J. Anim. Sci 86:461-469.
31. Bee, G., A.L. Anderson, S.M. Lonergan, and E. Huff-Lonergan. 2007. Rate and extent of pH decline affect proteolysis of cytoskeletal proteins and water-holding capacity in pork. Meat Science 76:359-365.
32. Lonergan, S. M., K. J. Stalder, T. J. Knight, E. Huff-Lonergan, R. N. Goodwin, K.J. Prusa, and D. C. Beitz. 2007. Influence of lipid content on pork sensory quality within pH classification. J. Anim. Sci. 85:1074-1079.
33. Huff-Lonergan, E. and S.M. Lonergan. 2007. New frontiers in understanding drip loss in pork: Recent insights on the role of postmortem muscle biochemistry. (Invited Review). (approximate percentage contribution – 90%). J. Anim. Breed. Genet. 124 (supplement 1):19-26.
34. Carnagey, K.M., E.J. Huff-Lonergan, A. Trenkle, A.E. Wertz-Lutz, R.L. Horst, and D.C. Beitz. 2008. Use of 25-hydroxyvitamin-D2 and vitamin E to improve tenderness of beef from Longissimus dorsi of heifers. J. Anim. Sci. 86:1649-1657.
35. Patton, B.S. E. Huff-Lonergan, 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.
36. Patton, B.S. E. Huff-Lonergan, M.S. Honeyman, B.J.Kerr, and S.M. Lonergan. 2008. Effects of deep bedded finishing system on market swine performance, compostion and pork quality. Animal: 2:459-470.
37. Barbut, S., A.A. Sosnicki, S.M. Lonergan, T. Knapp, D.C. Ciobanu, L.J. Gatcliffe, E. Huff-Lonergan, E.W. Wilson. 2008. Progress in reducing the pale, soft and exudative (PSE) problem in pork and poultry meat. Meat Science 79:46-63.
38. Carnagey, K.M., E.J. Huff-Lonergan, S.M. Lonergan, A. Trenkle, R.L. Horst, D.C. Beitz. 2008. Use of 25-hydroxyvitamin D3 and dietary calcium to improve tenderness of beef from the round of beef cow. J. Anim. Sci. 86:1637-1648.
39. Lametsch, R., S. Lonergan, E. Huff-Lonergan. 2008. Disulfide bond within μ-calpain active site inhibits activity and autolysis. Biochemica et Biohphysica Acta – Proteins and Proteomics. 1784:1215-1221.
40. Cupp, A.S., J. Matthews, E. Huff-Lonergan, D.M. Spurlock, and D. McLean. 2008 Cell biology symposium: The role of microRNA in cell function. J. Anim. Sci 87: E19-E20.
41. Kim, Y-H., Lonergan, S.M., Sebranek, J.G, and Huff-Lonergan, E. 2010. High-oxygen modified atmosphere packaging system induces lipid and myoglobin oxidation and protein polymerization. Meat Science 85:759-767.
42. Kim, Y-H., Lonergan, S.M. and Huff-Lonergan, E., 2010. Protein denaturing conditions in beef deep semimembranosus muscle results in limited μ-calpain activation and protein degradation. Meat Science. 86:883-887.
43. Huff-Lonergan, E., Zhang, W., Lonergan, S.M. 2010. Biochemistry of postmortem muscle – Lessons on mechanisms of meat tenderization. Meat Science 86:184-195.
44. Kim, Y-H., Huff-Lonergan, E., Sebranek, J.G., and Lonergan, S.M. 2010. Effects of lactate/phosphate injection enhancement on oxygen stability and protein degradation in early postmortem beef cuts packaged in high oxygen modified atmosphere. Meat Science. 86:852-858.
45. Fan, B., Lkhagvadorj, S., Cai, W., Young, J., Smith, R.M., Dekkers, J.C.M., Huff-Lonergan, E., Lonergan, S.M., Rothschild, M.F. 2010. Identification of genetic markers associated with residual feed intake and meat quality traits in the pig. Meat Science. 84:645-650.

46. Smith, R. M., N. K. Gabler, J.M. Young, W. Cai, N. J. Boddicker, M. J. Anderson, E. Huff-Lonergan, J.C.M. Dekkers, S.M. Lonergan. 2010. Effects of selection for decreased residual feed intake on composition and quality of fresh pork. J. Animal Science. 89:192-200.
47. Anderson, M.J., S.M. Lonergan, and E. Huff-Lonergan. 2012 (First published on line in August 2011). 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.
48. 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.
49. Anderson, M.J., Lonergan, S.M., Fedler, C., Prusa, K., Binning, J., and Huff-Lonergan, E. 2012. Profile of biochemical traits influencing tenderness of muscles from the beef round. Meat Sci 91:247-254
50. Lonergan, S.M. and E. Huff-Lonergan. 2012 Application of science, technology, and art in producing meat: A recipe for success. Animal Frontiers. 2:5. doi:10.2527/af.2012-0055
51. Grubbs, J, Fritchen, A., Huff-Lonergan, E., Gabler, N., Lonergan, S.M. 2013. Selection for residual feed intake alters the mitochondria protein profile in pigs. J. Proteomics 80:334-345.
52. Grubbs, J, Fritchen, A., Huff-Lonergan, E., Gabler, N., Lonergan, S.M. 2013. Divergent genetic selection for residual feed intake impacts mitochondrial reactive oxygen species production. J. Anim.Sci 91:2133-2140.
53. Kim, Y.H., Lonergan, S.M., Grubbs, J.H., Cruzen, S.M., Fritchen, A.N., Marino, A. 2013. Effect of low voltage electrical stimulation on protein and quality changes in bovine muscles during postmortem aging. Meat Science 94:289-296.
54. Cruzen, S.M., A.J. Harris, K. Hollinger, R.M. Punt, J.K. Grubbs, J.T. Selsby, J.C.M. Dekkers, N.K. Gabler, S.M. Lonergan, E. Huff-Lonergan. 2013. Evidence of decreased muscle protein turnover in gilts selected for low residual feed intake. Journal of Animal Science 91:2133-2140.
55. Ros-Freixedes, R., L.J. Sadler, S.K. Onteru, R.M. Smith, J.M. Young, A.K. Johnson, S.M. Lonergan, E. Huff-Lonergan, J.C.M. Dekkers, and M.F. Rothschild. 2014. Relationship between gilt behavior and meat quality using principal component analysis. Meat Science 96:264-269.
56. Cruzen, S. M., P.V.R. Paulino, S M. Lonergan, E. Huff-Lonergan. 2014. Postmortem proteolysis in three muscles from growing and mature beef cattle. Meat Science 96:854-861.
57. Mohrhauser, D.A. S.M. Lonergan, E. Huff-Lonergan, K.R. Underwood, and A.D. Weaver. 2014. Calpain-1 activity in bovine muscle is primarily influenced by temperature, not pH decline. J. Anim. Sci. Published ahead of print, Jan 2014.
58. Anderson, M., Lonergan, S.M., Huff-Lonergan. 2014. Differences in phosphorylation of phosphoglucomutase 1 in beef steaks from the longissimus dorsi with high or low star probe values. Meat Science 96:379-384.
59. Ros-Freixedes, R., Sadler, L., Onteru, S.K., Smith, R., Young, J.M., Johnson, A.K., Lonergan, S.M. Huff-Lonergan, E., Rothschild, M.F. 2014. Relationship between gilt behavior and meat quality using principal component analysis. Meat Science 96:264-269.
60. Grubbs, J., Huff-Lonergan, E., Gabler, N., Dekkers, J.C.M., Lonergan, S.M. 2014. Liver and skeletal muscle mitochondria proteomes are altered in pigs divergently selected for residual feed intake. Journal of Animal Science. 92:1995-2007.
61. Marquis, G.S., Colecraft, E.K., Owuraku, S-D., Lartey, A., Ahunu, B.K., Birks, K.A., Butler, L.M., Reddy, M.B., Jensen, H.H., Huff-Lonergan, E. 2015. An integrated microcredit, entrepreneurial training and nutrition education intervention is associated with better weight – but not height-related indicators among pre-school-aged children in rural Ghana. The Journal of Nutrition. 145:335-343.

62. Arkfeld, E., Young, J., Johnson, R., Fedler, C., Prusa, K., Patience, J., Dekkers, J., Lonergan, S., Gabler, N., Huff-Lonergan, E., 2015. Composition and quality characteristics of carcasses from pigs divergently selected for residual feed intake on high or low energy diets. Journal of Animal Science. 93:2530-2545.
63. Grubbs, J., Tuggle, C., Dekkers, J., Boddicker, N., Nguyen, Y., Huff-Lonergan, E., Nettleton, D., Lonergan, S., 2015. Investigation of the efficacy of albumin removal procdures on porcine serum proteome profile. Journal of Animal Science. 93:1592-1598.
64. Cruzen, S.M., Kim, Y.H., Lonergan, S.M., Grubbs, J.K., Fritchen, A.N., Huff-Lonergan, E. 2015. Effect of early postmortem enhancement of calcium lactate/phosphate on quality attributes of beef round muscles under different packaging systems. Meat Sci. 101:63-72.
65. Cruzen, S.M., Pearce, S.C., Baumgard, L.H., Gabler, N.K., Huff-Lonergan, E., Lonergan, S.M. 2015. Proteomic changes to the sarcoplasmic fraction of predominantly red or white muscle following acute heat stress. Journal of Proteomics. 128:141-153.
66. Pearce, S.C., Lonergan, S.M., Huff-Lonergan, E., Baumgard, L.H., Gabler, N.K. 2015. Acture heat stress and reduced nutrient intake alter intestinal proteomic profile and gene expression in pigs. PloS one. 10:e0143099.
67. Cruzen, S.M., Kim, Y.H.B., Lonergan, S.M., Grubbs, J.K., Fritchen, A.N., Huff-Lonergan, E. 2015. Effect of early postmortem enhancement of calcium lactate/phosphate on quality attributes of beef round muscles under different packaging systems. Meat Science. 101:63-72.
68. Grubbs, J.K., Dekkers, J.C.M., Huff-Lonergan, E., Tuggle, C.K., Lonergan, S.M. 2016. Identification of potential serum biomarkers to predict feed efficiency in young pigs. Journal of Animal Science. 94:1482-1492.
69. Carlson, K., Prusa, K., Fedler, C., Steadham, E., Outhouse, A., King, D., Huff-Lonergan, E., Lonergan, S. 2017. Postmortem protein degradation is a key contributor to fresh pork loin tenderness. Journal of Animal Science. 95:1574-1586.
70. Carlson, K., Prusa, K., Fedler, C., Steadham, E., Outhouse, A., King, D., Huff-Lonergan, E., Lonergan, S. 2017. Proteomic features linked to tenderness of aged pork loins. Journal of Animal Science. 95:2533-2546.
71. Powell, M.J., Yuan, C., Dzikamunhenga, R.S., Tarté, R., Huff-Lonergan, E., Lonergan, S.M., O'Connor, A. 2017. A systematic review and meta-analysis of tenderness metrics in control groups used for comparative nutrition experiments. Translational Animal Science. 1:261-276
72. Kim, Y. H., Ma, D., Setyabrata, D., Farouk, M., Lonergan, S.M., Huff-Lonergan, Hunt, M.C. 2018. Understanding postmortem biochemical processes and post-harvest aging factors to develop novel smart-aging strategies. Meat Science. 144:74-90.
73. Santos, C.C., Zhao, J., Dong, X., Lonergan, S.M., Huff-Lonergan, E., Outhouse, A., Carlson, K.B., Prusa, K.J., Fedler, C.A., Yu, C., Shackelford, S.D., King, D.A. Wheeler, T. L. 2018. Predicting aged pork quality using a portable Raman device. Meat Science. 145:79-85.
74. Liu, R., Fu, Q., Lonergan, S.M., Huff-Lonergan, E., Xing, L., Zhang, L., Bai, Y., Zhou, G., Zhang, W. 2018. Identification of S-nitrosylated proteins in postmortem pork muscle using modified biotin switch method coupled with isobaric tags. Meat Sci. 145:431-439.
75. Liu, R. Lonergan, S., Zhou, G., Huff-Lonergan, E., Zhang, W. 2019. Effect of nitric oxide and calpastatin on the inhibition of calpain-1 activity, autolysis and proteolysis of myofibrillar proteins. Food Chemistry. 275:77-84.
76. Liu, R., Lonergan, S., Steadham, E., Zhou, G.H., Zhang, W.G., Huff-Lonergan, E. 2019. Effect of nitric oxide on myofibrillar proteins and the susceptibility to calpain-1 proteolysis. Food Chemistry. 276:63-
77. de Oliveiraa, L.G., Delgado, E.F., Steadham, E.M., Huff-Lonergan, E., Lonergan, S.M. 2019. Association of calpain and calpastatin activity to postmortem myofibrillar protein degradation

and sarcoplasmic proteome changes in bovine Longissiumus lumborum and Triceps brachii. Meat Science. 55:50-60.

78. Outhouse, A.C., Helm, E.T., Patterson, B.M., Dekkers, J.C.M., Rauw, W.M., Schwartz, K.J., Gabler, N.K., Huff-Lonergan, E., Lonergan, S.M. 2019. Effect of a dual enteric and respiratory pathogen challenge on swine growth, efficiency, carcass compostion, and pork quality. Journal of Animal Science. 97:4710-4720.
79. Schulte, M.D., Johnson, L.G., Zuber, E.A. Patterson, B.M., Outhouse, A.C., Fedler, C.A., Steadham, E.M., King, D.A., Prusa, K.J., Huff-Lonergan, E., Lonergan, S.M. 2019. Influence of postmortem aging and post-freezing aging on pork loin quality attributes. Meat and Muscle Biology. 3:313-323.
80. Blakely, A., Prusa, K.J., Fedler, C.A., Sherrard, G.B., Steadham, E.M., Stalder, K.J., Lorenzen, C.L., Huff-Lonergan, E., Lonergan, S.M. 2019. The effect of rapid chilling of pork carcasses during the early postmortem period on fresh pork quality. Meat and Muscle Biology. 3:424-432.
81. Schulte, M , Johnson, L , Zuber, E , Steadham, E , King, D , Huff-Lonergan, E & Lonergan, S . (2020) Investigation of the Sarcoplasmic Proteome Contribution to the Development of Pork Loin Tenderness, *Meat and Muscle Biology*. 4(1): 8, 1–14. doi: 10.22175/mmb.9566

Peer-Reviewed, Invited Book Chapters

1. Lonergan, E.H., D.D. Beekman, and F.C. Parrish, Jr. 1994. Protein separation and analysis of certain skeletal muscle proteins: Principles and techniques. In: N.S. Hettiarachy and G.R. Ziegler (Ed.) Protein Functionality in Food, Marcel Dekker, Inc. New York. pp. 79-119.

2. Huff-Lonergan, E.J., and S.M. Lonergan. 1999. Postmortem mechanisms of meat tenderization: The roles of the structural proteins and the calpain system. In: Quality attributes of muscle foods. Y.L. Xiong, C-T. Ho, and F. Shahidi (eds.) Kluwer Academic/Plenum Publishers, New York. pp 229-251.

3. Huff-Lonergan, E., S. M. Lonergan, and D. Beermann. 2003. Growth and meat quality. In: Biology of Growth of Domestic Animals. C. Scanes (ed.) Iowa State University Press/Blackwell, Ames, Iowa. pp 220-232.

4. Hopkins, D.L., and E. Huff-Lonergan. 2004. Tenderising mechanisms: Chemical and enzymatic. In: Encyclopedia of Meat Sciences. Elsevier Science. pp. 1363-1369.

5. Huff-Lonergan, E. and S.M. Lonergan. 2009. Water-holding Capacity. In: Improving the Sensory and Nutritional Quality of Fresh Meat. J. Kerry and D. Ledward (eds). Woodhead Publishing Co., London, UK.

6. Ciobanu, D. C., S.M. Lonergan, and E. Huff-Lonergan. 2011. Genetics of meat quality and carcass traits. In: Genetics of the Pig. Second Edition. A. Ruvinsky and M.F. Rothschild (eds). CABI International. Oxfordshire, UK.

7. E. Huff-Lonergan. 2014 Tenderising mechanisms: Enzymatic. In: Encyclopedia of Meat Sciences. Elsevier Science..

U.S. Patents

1. Use of Vitamin D, its Metabolites and Analogs to improve tenderness of meat and meat products. Patent No. 6,042,588. Issue Date; 3/29/2000 Donald Beitz, Ronald Horst, Jayden Montgomery, Frederick Parrish, Allen Trenkle, Elisabeth Huff-Lonergan.

Teaching (25% of Appointment)

Courses Taught – Auburn University

Animal and Dairy Science 110 (Auburn University) - "Orientation to Animal and Dairy Science" 1 credit - 1997. Freshman level class that serves as an introduction to departmental programs and personnel, describes job opportunities for individuals trained in Animal Sciences. Guest lecturer on the muscle biology and meat science curriculum and career opportunities. (Dr. Dale Coleman - class coordinator)

Animal and Dairy Science 370 (Auburn University) "Meat Science" 4 credits. - 1996, 1997, 1998. **Approximately 40 students per year.** Biochemical and physiological factors affecting fresh meat and processed meat quality. Fundamentals of ante- and postmortem muscle biology, slaughter, processing, storage and merchandising of meat and meat products. (*Responsibilities -100% - Instructor*)

Animal and Dairy Science 490 (Auburn University) "Special Problems" 3 credits. - 1997. Co-directed (with Dr. Steven M. Lonergan) a senior undergraduate student majoring in Molecular Biology at Auburn University in a research project involving purifying and characterizing three monoclonal antibodies that were developed by our laboratories.

Animal and Dairy Science 671 (Auburn University) - **"**Advanced Meat Science" 5 credits - 1996, 1998. **Approximately 8 students per year.** Revised and updated this graduate level course. The course covers muscle microanatomy, biochemistry of muscle proteins and lipids, biochemistry of skeletal muscle contraction, lipid/protein interactions, antemortem and postmortem factors affecting fresh and processed meat quality. Class Format - Formal lectures by the instructors, student and instructor led discussions of current literature, individual student development of research proposals. Co-taught with Dr. Steven M. Lonergan (1996, 1998) and Dr. William B. Mikel (1996). [*Responsibilities - 40% of the lectures 1996 and 50% of the lectures in 1998 and class coordinator (1996 and 1998*)]

Animal Science 645/Chemistry 645 - dual listed. (Auburn University) - "Biochemical Research Techniques" 5 credits - 1996. Graduate level survey of modern biochemical laboratory techniques. Class format consists of lectures covering theoretical aspects of the techniques and laboratory exercises demonstrating the application of specific techniques. Guest lecturer on immunoblotting techniques. (Dr. Frank [Skip] Bartol -class coordinator).

Muscle Biology/Meat Science Journal Club (Auburn University) - 1997. Established and coordinated a weekly journal club in the Animal and Dairy Science Department at Auburn University.

Courses Taught – Iowa State University

Animal Science 211 (Iowa State University) taught for two semesters – "Issues Facing Animal Science" 1 credit. Spring 2000 and Spring 2001. 80 students/40 per section both semesters. Dr. Huff Lonergan oversaw one section both semesters. Spring 2001 she coordinated the class. This course presents an overview of the factors that define contemporary ethical and scientifically based issues facing animal agriculture. The course also promotes life skill development (including interaction skills, communication ability, organization, information gathering and leadership skills) emphasized in the context of issues study. (*Responsibilities – 50% - shared with Dr. Jack Dekkers as Co-Instructor in 2000, 75% responsibility Co-Instructor with Dr. David Topel ; Huff-Lonergan was course coordinator in 2001*)

Animal Science 360 (Iowa State University) taught for 10 semesters – "Fresh Meats" 3 credits. Fall 1999. 12 junior and senior level animal science students; Fall 2000 16 junior and senior level animal science students. Fall 2001 20 junior and senior level animal science students. Fall 2002 16 junior and senior level animal science students, 2 Meat Science Ph.D. students and 1 Meat Science M. S. student also audited the class. Fall 2003 15 junior and senior level animal science students, 1 Ph.D. student and 1 visiting scientist sat in on the class. Fall 2004. 16 junior and senior level students from animal science, agricultural education, agricultural studies and health and human performance, 1 animal science M.S. student sat in on the class. Fall 2005 (co-taught with Dr. Dennis Olson who was preparing to take the class over). 11 junior and senior level students from animal science, agricultural education, agricultural studies. Fall 2012 – 13 students (12 undergraduate students, 1 graduate student). Fall 2013 – 23 students (22 undergraduate students and 1 graduate student). Fall 2014 – 17 students (16 undergraduate students, 1 graduate student)This course covers the 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. Includes preparation and presentation of a research paper by the students. (*Responsibilities -100% - Instructor*)

Animal Science 345– (Iowa State University) – "Animal Growth and Development" – 3 credits. Spring 2005. Dr. Huff-Lonergan was responsible for 2 lectures covering the role of muscle growth in meat quality.

Animal Science 324 – "Food processing and nutrition for carnivorous companion animals". 3 credits. Taught for 3 semesters (2011, 2013, 2014, 2015, 2016, 2017, 2018). Taught for the first time in Fall 2011-7 students. (responsible for 70% of the lectures and for course development, design and management. Lance Baumgard taught 30% of the lectures). Fall 2013 – 13 students. (responsible for 70% of the lectures and for course development, design and management. Cheryl Morris taught 30% of the lectures). Fall 2014 and 2015, 2016 -13 students – Responsible for managing the course, attending all lectures and teaching 30 % of the lectures, Dr. Kurt Rosentrater – ABE taught 30% of the lectures and Dr. Cheryl Morris taught 40% of the lectures. Fall 2017 and 2018 -Elisabeth Huff Lonergan was responsible for managing the course, attending all lectures and teaching 30 % of the lectures, Dr. Kurt Rosentrater – ABE taught 30% of the lectures and Dr. Mariana Rossoni-Serao taught 40% of the lectures) Topics covered include meat processing and meat preservation for companion animal diets, regulatory standards, cutting edge technologies for processing meat/diets for companion animals, dietary needs of carnivorous companion animals and the effects of different processing methods on safety and nutrient bioavailability. Due to low enrollment, the course was not taught in the fall of 2019. It is now a required course for the Feed Technology minor and will be taught in Fall of 2020.

Animal Science 451 – (Iowa State University) – "Animal Molecular Biology" 3 credits Fall 1999, 2000, 2001, 2002, 2004. Guest lecturer on SDS-PAGE and immunoblotting techniques.

Animal Science 490 - (Iowa State University) – "Independent Study in Meat Science" 3 credits. Spring 2000. 1 senior Animal Science student. Directed a senior undergraduate student in an independent laboratory project in meat science/muscle biology. (*Responsibilities -100% - Instructor*)

Animal Science 590 - (Iowa State University) – "Special Topics in Animal Science" 3 credits. Fall 1999. 2 Ph.D students. Fall 2003. 1 Meat Science Ph.D. student and 2 Meat Science M. S. students. Directed the study of graduate students on muscle structure, composition, rigor mortis, inspection, fabrication, handling, packaging and cooking on the palatability, nutritional value, yields, market value, and safety of fresh meat. (*Responsibilities -100% - Instructor*)

Animal Science 590. (Iowa State University) – "Special Topics in Animal Science" 2 credits. Spring 2002. **1 M.S. student in Ruminant Nutrition.** Directed the study of a master's level student on muscle structure, composition, and rigor mortis. (*Responsibilities – 100% - Instructor*)

Food Science/Human Nutrition 590C (Iowa State University) - "Supervised Teaching" Fall 2002 2012, 2013, 2014). Guided a Food Science and Animal Science graduate students in teaching the laboratory portion of Animal Science 360 "Fresh Meats". (*Responsibilities -100% - Instructor*)

Food Science/Human Nutrition 613 (Iowa State University) "Food Proteins". 3 credits. Fall 2005. 10 students. Taught the lectures and gave the exam over meat proteins.

Animal Science 684 (Iowa State University) "Meat Science Seminar." 1 credit. Spring 2003, 2004, 2005, 2006 Coordinated the graduate seminar. This involves grading written abstracts/summaries of their presentations, working with the students prior to their "public" presentation, grading the final presentation, and arranging for other speakers to fit around a "theme". The spring 2003 theme was centered on laboratory techniques and their applications. Several speakers were from outside the meat science discipline. (*Responsibilities -100% - Instructor*)

Animal Science 570 – (Iowa State University) – "Advanced Meat Science and Applied Muscle Biology" 3 credits. Instructor *Spring 2005*. 14 M.S. and Ph.D. students in animal science. *Spring 2007*. 8 M.S. and Ph.D. students in Animal Science. *Spring 2008*, 5 M.S. and 3 Ph.D. students in Animal Science. Spring 2010. *Spring 2012*, 9 students. *Spring 2014* – 7 students. *Spring 2016* – 8 students, *Spring 2018* – 9 students, *Spring 2020* – 7 students. Course Description: Ante and postmortem factors impacting composition, structure, and chemistry of red meat and poultry muscle/meat, the conversion of muscle to meat, and the sensory and nutritional attributes of fresh meats. Oral research reports and a research proposal. (*Responsibilities -100% - Instructor*)

Animal Science 573X – (Iowa State University) – "Fresh Meat Science and Technology" 3 credits. Instructor *Spring 2020*. Responsible for creating and instructing this entirely on-line course. The course was created to support the on-line Meat Science Certificate Program. Course description: Quality, and sensory attributes of fresh meats and how they develop and how they are evaluated. The study of ante and postmortem factors impacting quantity, composition, structure, and chemistry of red meat and poultry muscle/meat.

Supervision of Graduate Students and Postdoctoral Researchers

Supervision of Graduate Students at Auburn University

Graduate Students Advised or Co-Advised

Student	Degree/ Date	Major	Role	Placement
Scott Edward Harris	M.S. Spring 1999	Meat Science	Co-Advisor	Product Development Specialist – Cryovac Sealed Air, Duncan, S.C.

Graduate Student Committees at Auburn University

Student	Degree	Major/Advisor
Eru Liu	M.S. – Summer 1997	Muscle Biology/Don Mulvaney
Susan Gaasch	M.S.- Summer 1999	Nutrition/Keith Cummins

Supervision of Postdoctoral Researchers at Iowa State University

Researcher	Period of time at ISU	Project area
Dr. Yuan (Brad) Kim	September 2008 – May 2010	Novel methods to prevent protein oxidation in postmortem muscle Current Position – Asst. Professor, Purdue University

Supervision of Graduate Students at Iowa State University

Graduate Students Advised or Co-Advised

Student	Degree/ Date	Major	Role	Placement
Kathy Hadley Davis	M.S. Fall 2001	Meat Science	Co-Advisor	Product Development Specialist – Burke Manufacturing, Nevada IA
Jamie Dodge Melody	M.S. Summer 2002	Meat Science	Advisor	Research Scientist –College of Veterinary Medicine - Iowa State University

Laura Rowe	M.S. Fall 2002	Meat Science	Advisor	Senior Research Associate - Pioneer
Aaron Asmus	M.S. Summer 2003	Meat Science	Advisor	Director of Research and Development – Jennie-O Products, Willmar MN
Abby Ostendorf	M.S. Spring 2004	Meat Science	Advisor	Product Applications Specialist Elanco, Greenfield, IN
Graciela Mendez	M.S. Spring 2005	Meat Science	Co-Advisor	Product Applications Specialist Kerry Ingredients, Chicago, IL
Wan-Gang Zhang	Ph.D. Received Spring 2009	Meat Science	Advisor	Associate Professor – Nanjing Agricultural University
Mark Anderson	Ph.D. Spring 2011	Meat Science (Minor in Statisitcs)	Advisor	Assistant Professor of Animal Science –Sam Houston State University
Shannon Cruzen	Ph.D. Summer 2013	Meat Science (Minor in Statistics)	Advisor	Postdoctoral Research Assistant – Iowa State University – Muscle Biology. Supervisors – Steven Lonergan and Joshua Selsby
Emily Arkfeld	MS. Fall 2013	Meat Science	Advisor	PhD Student – University of Illinois
Carl Frame	PhD expected Summer 20	Meat Science and Animal Science (co-major	Co-Advisor with Mariana Serrao	
Katherine Hochmuth	MS expected summer 20	Meat Science and Animal Science (co-Major)	Co-Advisor with Stephanie Hansen	
Matt Schulte	PhD expected Spring 21	Meat Science		

Graduate Student Committees at Iowa State University

Student	Degree	Major/Advisor

Emily Helman	M.S.- Summer 2001	Muscle Biology/Steven Lonergan
Monica Foote	M.S. - Summer 2001	Nutrition/Don Beitz
Jill Sherwood	M.S. - Fall 2001	Interdepartmental Genetics/Max Rothschild
Stephanie Seiler Lex	M.S. - Spring 2002	Biochemistry/Richard Robson
Cheryl (Warrick) Dikeman Morris	M.S. - Fall 2002	Nutrition/Allen Trenkle
Jason Ellis	M.S. - Spring 2003	Meat Science/Joe Sebranek
Maareen Custodio	M.S. Summer 2004	Nutrition/Wendy Powers
Trevor Lutz	Ph.D. - Fall 2003	Nutrition/Tim Stahly
Kasey Maddock	Ph.D. Summer 2005	Meat Science/Steven Lonergan
Kyung Yuk Ko	Ph.D. Summer 2007	Meat Science/Dong Ahn
Kristen M. Carnagey	Ph.D Summer 2006	Nutrition/Don Beitz
Hehsam A. Ismail	Ph.D. Summer 2007	Meat Science/Dong Ahn
Ryan Husak	M.S. Spring 2007	Meat Science/Joe Sebranek
Xingqui Lou	Ph.D. Expected Fall 2008	Meat Science/Steven Lonergan
Cory Wagner	M.S. Summer 2007	Meat Science/Steven Lonergan
Ye Cheng	Ph.D. Fall 2010	Animal Breeding and Genetics/James Reecy
Rachel Smith	M.S. Summer 2009	Meat Science/Steven Lonergan
Judson Kyle Grubbs	Ph.D. Fall 2012	Meat Science/Steven Lonergan
Katrin Hollinger	PhD. Spring 2014	Physiology/Josh Selsby
Sarah Pierce	PhD Summer 2014	Animal Nutrition/Nick Gabler
Olivia Genther	PhD Summer 2014	Animal Nutrition/Stephanie Hansen
Charlwit Kulchaiyawat	PhD Expected Spring 2015	Food Science/Tong Wang
Jason Russell	PhD Recieved Fall 2015	Animal Nutrition/Stephanie Hansen

Congmu Zhang	MS Received Summer 2015	Ag and Biosystems Engineering/Kurt Rosentrater
Allyson Arrick	MS Expected Fall 2016 (did not complete)	Ag and Biosystems Engineering/Kurt Rosentrater
Cayla Iske	MS Recieved Fall 2015	Animal Nutrition/Cheryl Morris
Kelsey Carlson	MS Received Spring 2016	Meat Science/Steven Lonergan
Chelesa Iennarella	MS Received Spring 2017	Animal Nutrition/Cheryl Morris
Matt Schulte	MS Received Fall 2018	Meat Science/Steven Lonergan
Hannah Spaulding	PhD Recieved Spring 2019	MCDB/Josh Selsby
Remy Carmichael	PhD Received Summer 2019	Animal Science/Steph Hansen
Katherine VanValin	PhD Received Summer 2019	Animal Science/Steph Hansen
Elizabeth Messersmith	PhD Expected Spring 2021	Animal Science/Steph Hansen
Meaghan Meyer	PhD Expected Spring 2021	Animal Science/Liz Bobeck

Graduate Student Committees at International Institutions

Student	**Degree**	**Institution/Major Professor**
Marianne Nissen Lund	PhD –November 29, 2007	University of Copenhagen, Demark/Dr. Leif Skibsted, professor of Food Chemistry
Julie Marsh	PhD – Biological Sciences - 2005	University of Waikato – New Zealand/ Dr. Nicholas Ling and Dr. Clyde Daly

Undergraduate Advising at Iowa State University
Currently advise an average of 25-30 undergraduates per semester in the Department of Animal Science.

Research

75% of Appointment – 1998-2011, and 2016- present
(50% of Appointment 2012-2015 while serving as ADVANCE Faculty Fellow in the Provost's Office)

Total $ of proposals funded as PI or Co-PI during her career (1996-2019) $10,235,322

Visiting Scientists Hosted/Co-Hosted

Scientist	Institution	Year	Time Frame
Dr. Giuseppe Bee	Swiss Federal Research Station for Animal Production	2003 2005	7 months 1 month
Javier Peinado del Pino	Imasde (private agricultural research consulting firm from Spain)	2003	3 weeks
Dr. Jin Hyoung Kim	National Livestock Research Institute in the Republic of Korea.	2003-2004	10 months
Dr. René Lametsch	KVL University, Copenhagen, Denmark	Fall 2006	3 months
Javier Viguera	Imasde (private agricultural research consulting firm from Spain)	Summer 2007	3 weeks
Dr. Pedro Veiga Paulino	Universidade Federal de Vicosa – Vicosa, Brazil	2011	1 year
Leonardo Oliveira PhD Student	Federal University of Goiás - Brazil	2014-2015	1 year
Rui Liu – visiting PhD student	Nanjing University, Nanjing, China	2017	1 year
Mario Chizzotti	Universidade Federal de Vicosa – Vicosa, Brazil	2017-2018	6 months

Reviewing Editing and Professional Service Activities in Research

Meat and Muscle Biology – American Meat Science Association – Editor-In-Chief, 2019-present. Responsible for finding and establishing a relationship with a new publisher.
Meat and Muscle Biology – American Meat Science Association. Founding Editorial Board 2016-2018
Meat Science (Elsevier Press) – Associate Editor. Handled approximately 300 articles per year. 2008-2015
Journal of Muscle Foods - *Editorial Board Member*: 2000-2011.
Journal of Animal Science (the official Journal of the American Society of Animal Science) - *Editorial Board Member*: 1997-2000, *Ad-Hoc Reviewer*: 2001-2007 *Editorial Board Member*: 2008-2010. *Ad-Hoc Reviewer*: 2011-2015.
Fleischwirtschaft – Editorial Board Member – 2008-2015
National Research Initiative Competitive Grants Program (USDA/CSREES/NRICGP) Value Added Products Research - *Ad Hoc Reviewer*-1997, 1998, 2001, 2003, 2004, 2006 ***Panel Member*** – Panel 71.1. Improving Food Quality and Value – 2005, 2007
Journal of Food Science - Ad Hoc Reviewer - 2001-2015
Food Science and Technology – Ad Hoc Reviewer – 2000, 2001
Institute of Food Technologists. Muscle Foods Division Committee Member-at-Large. 1999-2001
Journal of Agricultural and Food Chemistry – Ad Hoc Reviewer – 2003-2015.

Diversity Activities at Iowa State University

Provost's Office – Faculty Fellow – ADVANCE – August 2012 – 2015 (25% Administrative appointment). Responsible for coordinating the activities related to the advancement and faculty satisfaction of all faculty on campus with a particular emphasis on women and underrepresented groups on campus.

ADVANCE Professor for the Department of Animal Science-August 2008-December 2010 (NSF funded initiative) – responsible for facilitating the identification and implementation of new policies and practices to enhance departmental communication and workplace satisfaction and to work with College and University level administrators/researchers in evaluating the effectiveness of the changes.

PWISE (Program for Women in Science and Engineering) Mentor- Summer 2005 and 2006 - Mentor for Abbey (Avery) Canon in 2005 and Kathy Mou in 2006.

Institutional Service Outside Iowa State University

Member of a Department review team for the Department of Animal and Veterinary Sciences at the University of Idaho -*Member of a departmental review team to review the Department of Animal and Veterinary Sciences at the University of Idaho. We met during the first week of October, 2017. Dr. Michael Looper (University of Arkansas) chaired the committee and my fellow members were Tom McFadden (University of Missouri/Columbia) and Dr. Jim Oltjen, UC Davis.*

Member of a Department review team for the Department of Animal Science at Auburn University Member of a departmental review team to review the Department of Animal Sciences at the Auburn. We met in April 2019. Dr. Neal Schrick (University of Tennessee) chaired the committee.

Institutional Service at Iowa State University

Departmental Level

Member Chuckwagon Breakfast committee, 1999-2000, 2004, 2006-2009, 2011-2014
Member of the Animal Science Department Strategic Plan Committee, 2000. The purpose of this committee was to develop and write the new strategic plan for the department
Member of the Search Committee for the Animal Science Department Interim Chair, 2001
Faculty supervisor for a secretary for three faculty members in the department, 2002-present
Member of the Animal Science Department Seminar Committee, 2002-2005
***Chair* of the Animal Science Department Graduation Breakfast Committee**, 2003-present
Member of the Search Committee for the Animal Science Department Chair, 2003
***Chair* of the Animal Science Seminar Committee**, 2003-2004
Faculty Advisor for the Meat Science Graduate Student Organization, 2001-current
***Chair* of the Search Committee for the Food/Meat Safety position in Animal Science**. 2005
Animal Science Department Undergraduate Curriculum Committee – 2006, 2007
Member of the Search Committee for a faculty member in Beef Feedlot Nutrition – 2008
***Chair* of the Search Committee for a lecturer (faculty) in Companion Animal Science**. – 2008
***Chair* of the Peer Review of Teaching development committee** – 2010-2011
Mentor to 3 faculty – 2 Associate Professors in Animal Science (Dr. Anna Butters Johnson and Dr. Lance Baumgard) and 1 Assistant Professor in Animal Science (Dr. Stephanie Hansen)
Mentor to a Preparing Future Faculty student – Katrin Hollinger (2011-present)
Member of the Search Committee for the Animal Science Department Chair, 2013-14
Mentor to a Graduate College Emerging Leader – Trey Kellner (2015), Qingyun Li (2017)
Chair of the Animal Science Curriculum Committee – 2016-2020

College Level

Member of the Iowa State University College of Agriculture Professional Development Committee, 2000-2002. The role of this committee was to evaluate travel grants for activities related to outreach and teaching and to aid in defining professional development activities/conferences for the college.

Faculty Advisor for Sigma Alpha, Delta Chapter, 2003-2006. Sigma Alpha is a professional agricultural sorority for undergraduate women in agriculture. The Delta chapter is the Iowa State University chapter of this national sorority.

Member of the College of Agriculture and Life Sciences Promotion and Tenure Committee – 2010, 2011, 2017

Chair - College of Agriculture and Life Sciences Promotion and Tenure Committee – 2012

Member of the College of Agriculture and Life Science Curriculum Committee – 2016-2020

University Level

Member of the Iowa State University Faculty Senate Committee on Appeals, 2000 – 2001. The role of this committee was to hear grievance cases from faculty and students.

Member of the Iowa State University Nutritional Sciences Council Current Issues in Nutrition Conference committee, 2001-2005. The role of this committee was to plan and host the annual nationwide satellite conference for dieticians and health professionals.

Co-Chair **of the Iowa State University Nutritional Sciences Council Current Issues in Nutrition Conference committee**, 2004-2005. The role of this committee was to plan and host the annual nationwide satellite conference for dieticians and health professionals.

Member of the Iowa State University Nutritional Sciences Council Research Committee, 2001-2005. The role of this committee is to review grant proposals and recommend funding for seed grants administered by the Nutritional Sciences Council.

Member of the Iowa State University Bioethics Committee, 2001-2007. The charge of this committee is to assist in planning university wide bioethics programming.

Member of the Iowa State University Graduate Council, 2006-2009. The Graduate Council serves as the executive committee of the graduate faculty. The Graduate Council represents the Graduate Faculty, serves in an advisory capacity to the Dean of the Graduate College, approves new graduate programs, and establishes educational policies that govern graduate education throughout the College. The Council is elected and meets at least monthly during the academic year.

ADVANCE Professor 2008-2010 – embedded in the Department of Animal Science

ADVANCE Faculty Fellow in the Provost's office – 2012-2015

Faculty Senator for the Animal Science Department – 2019-2021

Member of the University Equity, Diversity and Inclusivity committee – 2019-2021

Member of the CALS Curriculum committee – 2016-2020