Yuan H. 'Brad' Kim

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EDUCATION

- **Texas A&M University, College Station, TX** **August 2008**
  Doctor of Philosophy (GPA 3.8/4.0) in Food Science (Meat Sci. emphasis)
  Dissertation Title: *Identifying the involvement of lactate dehydrogenase on metmyoglobin reducing system and its application to improve color stability of beef primal cuts through lactate enhancement*
  Advisor: Dr. Jeff Savell, Co-advisor: Dr. Jimmy Keeton

- **Kansas State University, Manhattan, KS** **December 2004**
  Master of Science (GPA 3.9/4.0) in Food Science (Meat Sci. emphasis)
  Thesis Title: *Mechanism for lactate color stabilization in injection enhanced beef*
  Advisor: Dr. Melvin Hunt

- **University of California, Davis, CA** **2001 to 2002**
  Exchange Student in Animal Science
  Advisor: Dr. Yu Bang Lee

- **Konkuk University, Seoul, South Korea** **August 2002**
  Bachelor of Science (GPA 3.7/4.0) in Animal Products Science
  Thesis Title: *Study of physicochemical and sensory characteristics of reconstructed pork belly*
  Advisor: Dr. C. J. Kim

PROFESSIONAL APPOINTMENTS

- **Associate Professor**, Department of Animal Sciences, Purdue University, West Lafayette, Indiana. August 2019 – Present

- **Assistant Professor**, Department of Animal Sciences, Purdue University, West Lafayette, Indiana. January 2014-2019

- **Senior Research Scientist**, Food and Bio-based Product Group, Meat Science and Technology Team, AgResearch, Ltd., Hamilton, New Zealand, 2010-2013

- **Postdoctoral Research Associate**, Department of Animal Science, Muscle Biology Lab, Iowa State University, Ames, Iowa, 2008-2010

HONORS AND AWARDS

- Distinguished Achievement Award. 2018. American Meat Science Association.
- Outstanding Young Research Award. 2018. Midwest American Society of Animal Science
- USDA-NIFA AFRI Grant Award. 2017 & 2020
- Purdue AgSEED Research Grant Award. 2016, 2017, 202O.
- Tomorrow's Leaders, AgResearch, New Zealand, 2012.
- AGMARDT Fellowship Grant Award. AGMARDT, New Zealand, 2011.
- International Graduate Student Fellowship Award. 2008. Texas A&M Univ.
- Graduate Student Oral/Paper Competition **1st place**. IFT-Muscle Food Division, 2008.
- Graduate Student Travel Award. Food Science & Technology. 2007, 2008. Texas A&M Univ.
- Graduate Student Travel Award. Department of Animal Science. 2008. Texas A&M Univ.
- Graduate Student Excellence Scholarship Award. Korean-American Scientists and Engineers Association (KSEA), New York, 2006.
- Graduate Student Poster Competition **1st place** in Ph.D. Division. Intercollegiate Faculties of Nutrition and Food Science & Technology Research Symposium, 2005. Texas A&M Univ.
- Graduate Student Oral/Paper Competition **1st place**. IFT-Muscle Food Division, 2005.
- Graduate Student Poster Competition **1st place** in M.S. Division. Reciprocal Meat Conference, American Meat Science Association, Baltimore, Maryland, 2005.
- Student Research Week Graduate competition **2nd place**. 2005. Texas A& M Univ.
- Excellence Award from the Minister of the Korean government (The Minister of Commerce, Industry and Energy) 2002. Korea.
- Excellence Award. Korea International Trade Association. 2001.
- Awarded five undergraduate scholarships for the excellent academic achievements. 2001, Konkuk Univ., Seoul, Korea.

INTERNATIONAL CONTRIBUTION AND ACTIVITIY

- **Honorary Scientist & Advisor**. National Institute of Animal Science, Rural Development Administration, South Korea. 2016-2021
- **International Editor**, Food Science of Animal Resources Journal. 2020 – Present
- **Editorial Board**, Food Chemistry, Food Chemistry Advances, Food Chemistry X Journals. 2020–Present
- **Editorial Board**, Meat and Muscle Biology Journal (AMSA). 2016–Present
- **Editorial Board**, Applied Science. 2021–Present
- **Co-Chair of Scientific Program Abstract Committee**, International Conference of Meat Science and Technology (ICoMST) & Reciprocal Meat Conference (RMC). 2019 – 2020
- **ICoMST New Zealand contact person**, 2012 to 2013
- **Organizing Committee**, the 56th ICoMST, Jeju, South Korea, 2010
- **Overseas Board Member-at-Large,** Korean Society for Food Science of Animal Resources (2016–Present)
- **Session Chair and Organizer**, Institute of Food Technologists (IFT), Blending Science and Craftsmanship: Perspectives on Meat Culinary Innovations. Chicago, Illinois. June 2018
- **Member-at-Large,** IFT- Muscle Food Division. 2016-2018
- **Overseas PhD Dissertation examiners** for Honor Calnan (Phd candidate, Murdoch University, Australia, 2017) and Yumei Zhang (Phd candidate, University of Finland, Finland, 2020)

RESEARCH INTERESTS

- **Muscle biology and biochemistry**
  - Apoptosis, postmortem proteolysis, myoglobin redox stability, calpain biology, protein/lipid oxidation, metabolomics and proteomics
- **Meat processing**
  - Pre-and Post-rigor processing: dry-aging, electrical stimulation, injection enhancement, modified atmosphere packaging technology, aging/freezing/thawing technology and value-added processed meat, and functional bioavailability
- **Meat quality**
  - Meat color, tenderness, water-holding capacity and flavor development.
- **Animal growth and development**
  - Environmental (Heat) Stress and/or feeding effects on meat quality

PROFESSIONAL EXPERIENCE

- **Department of Animal Sciences, Purdue University** **2014 to Present**

Dr.Kim leads the Meat Science and Muscle Biology research program at Purdue University, focusing on improving meat quality attributes (fresh and processed meat) and enhancing functional properties of muscle through both fundamental and applied approaches. In particular, Dr. Kim's research program focuses on determining impacts of pre- and post-harvest factors on muscle proteolytic enzyme activity, oxidative stability and subsequent meat quality attributes, such as tenderness, flavor, water-holding ability and color and lipid oxidative stability. Various on farm factors (animal diet, stress, breed, or genetics) and post-harvest practices, such as carcass chilling regimes, electrical inputs, and/or postmortem aging conditions have substantial impacts on meat quality attributes. Specifically, Dr. Kim's laboratory has been investigating 1) the impact of animal diet combined with environmental stress on meat quality attributes, 2) the impact of pre- and post-rigor carcass processing on the dynamics of metabolites, proteomes, proteolysis and oxidative stability, 3) the impact of various postmortem aging conditions (SMART aging) on meat quality, and 4) the development of value-added processed meat using functional and novel non-meat ingredients. Dr. Kim's research program has been funded by extramural and intramural grants, commodity groups and other collaborating research institutes. Dr. Kim has developed several strategic research collaborations to bring synergistic impacts on his program in these related areas by working with colleagues from within Purdue University, nationally and internationally.

- **Senior Scientist, Food and Bio-based Product, AgResearch, New Zealand.** **2010 to 2013**

- Managed the delivery of New Zealand meat research programs and led developing new research opportunities in improving meat quality characteristics.
- Provided consultant services to New Zealand meat industry and government agencies.
- Supervised meat science research staff, undergraduate- and graduate-students and postdoc.
- Published and presented research findings in national and international journals & forums.
- Developed/enhanced meat processing and muscle biochemical analyses capabilities and trained meat color sensory panels.

- **Post-doctoral Research Associate, Dept. of Anim. Sci. Iowa State Univ.** **2008 to 2010**
(Research advisor: Drs. Elisabeth Huff-Lonergan and Steven Lonergan)

- Prepared and submitted multiple USDA-NRI, USDA-AFRI and NCBA grants.

- Supervised undergraduate research projects.
- Immuno assay analysis for calpain autolysis and myofibrillar protein degradation.
- Protein/lipid oxidation analysis, protein assay, calpain/calpastatin activity, casein zymography assay and 2-DG electrophoresis technique.
- Myoglobin redox chemical analysis/metmyoglobin reducing activity.

PUBLICATIONS

*** Summary** (Source: Google Scholar 1/4/2022):
Total Citations – 2,612, H-Index: 30, I-10 Index: 52

a. Referred Papers: 86 (First and/or corresponding author = 73; Co-author = 13)
b. Manuscripts in Review: 4
c. Book Chapters: 4
d. Patents: 4
e. Conference Proceedings: 24
f. Abstracts: 65

a. Referred Papers (*indicates corresponding author):

1) Nondorf, M.J. **Kim, Y.H.B.*** 2022. Fresh beef tumbling at different postmortem times to improve tenderness and proteolytic features of M. longissimus lumborum. International Journal of Food Science and Technology. In Press.

2) Ortez, M., Widmar, N.O., Thompson, N.M., **Kim, Y.H.B.** 2022. What do U.S. consumers care about regarding beef and its supply chain? Meat Science. In Press.

3) Setyabrata, D., Wagner, A., Cooper B.R., **Kim, Y.H.B.*** 2021. Effect of dry-aging on quality and palatability attributes and flavor-related metabolites of pork loins. Foods. 10: 2503.

4) Setyabrata, D. Xue, S., Vierck, K., Legako, J., **Kim, Y.H.B.*** 2021. Impacts of various dry-aging methods on meat quality and palatability attributes of beef loins from cull cow. Meat and Muscle Biology. In Press.

5) Tuell, J., Yu, Q., **Kim, Y.H.B.*** 2021. Effects of fresh beef tumbling and further aging on meat quality, proteolysis, and ultrastructure of M. longissimus lumborum. Meat and Muscle Biology. In Press.

6) Guedes-Oliveira, J.M., **Kim, Y.H.B.,** Conte-Junior, C.A**.** 2021. What are the potential strategies to achieve healthier meat products? A Review. International Journal of Food Science. In Press.

7) Ma, D., Suh, D.H., Guedes-Oliveira, J.M., Zhang, J., Chao, Y., Duttlinger, A.W., Johnson, J.S., **Kim, Y.H.B.*** 2021. Apoptotic and proteolytic attributes and metabolomics profiling in porcine muscles from two production cycles. Scientific Report. 11:3465.

8) Yu, Q., Cooper, B., Sobreira, T., **Kim, Y.H.B.*** 2021. Metabolomics profiling to reveal the impact of aging on quality attributes of pork loins. Foods. 343:128552.

9) Tuell, J., Nondorf, M.J., Maskal, J.M., Johnson, J.S., **Kim, Y.H.B.*** 2021. Impacts of in utero heat stress on carcass and meat quality traits of market weight gilts. Animals. 11:717.

10) Setyabrata, D., Cooper B.R., Sobreira, T.J.P., Legako, J.F., Martini, S., **Kim, Y.H.B.*** 2021. Elucidating mechanisms involved in flavor generation of dry-aged beef loins using metabolomics approach. Food Research International. 139:109969.

11) Xue, S., Setyabrata, D., **Kim, Y.H.B.*** 2021. Evaluation of functional and chemical properties of crust from dry-aged beef loins as novel food ingredient. Meat Science. 173: 108403.

12) Ma, D., Guedes-Oliveira, J.M., Duttlinger, A.W., Johnson, J.S., Zuelly, S.M., Lay, D., Richert, B., **Kim, Y.H.B.*** 2021. Impact of L-glutamine as replacement of dietary antibiotics during post weaning and transport recovery on carcass and meat quality attributes in pigs. Livestock Science. 244:104350.

13) Tuell, J., Kim, H.W., Guedes-Oliveira, J.M., Seo, J.K., Schoonmaker, J., **Kim, Y.H.B.*** 2021. Arginine supplementation may improve color and redox stability of beef loins through delayed onset of mitochondrial-mediated apoptotic processes. Food Chemistry. 128552.

14) Tuell, J., Park, J.Y., Wang, W., Cheng, H.W., **Kim, Y.H.B.*** 2020. Functional and physicochemical properties and oxidative stability of ground meat from broilers reared under different photoperiods. Poultry Science. 99:3761-3768

15) Tuell, J., Seo, J. K., **Kim, Y.H.B.*** 2020. Combined impacts of initial freezing rate of pork ham muscles (M. biceps femoris and M. semitendinosus) and subsequent freezing on quality characteristics of pork patties. Meat Science. 170:108248.

16) Tuell, J., Park, J.Y., Wang, W., Cooper, B., Sobreira, T., Cheng, H.W., **Kim, Y.H.B.*** 2020. Effects of photoperiod regime on meat quality, oxidative stability, and metabolites of postmortem broiler fillet (M. Pectoralis major) muscles. Foods. 9:215.

17) Yang, F., Cho, W., Seo, H.G., Jeon, B.T., Kim, J.H., **Kim, Y.H.B.,** Wang, Y., Lee. C.H.* 2020. Effect of L-cysteine, Boswellia serrata, and whey protein on the antioxidant and physicochemical properties of pork patties. Foods. 9:993.

18) Ma, D., Yu, Q., Hendrick, V.E., Cooper, B.R., Sobreira, T., Oh, J.H., Chun, H.H., **Kim, Y.H.B.*** 2020. Proteomic and metabolomic profiling reveals the involvement of apoptosis in meat quality characteristics of ovine m. longissimus from different callipyge genotypes. Meat Science. 166:108140.

19) Zhang, J. Ma, D., **Kim, Y.H.B.*** 2020. Mitochondrial apoptosis and proteolytic changes of myofibrillar proteins in two different pork muscles during aging. Food Chemistry. 319:126571.

20) Ma, D., **Kim, Y.H.B.*** 2020. Proteolytic changes of myofibrillar and small heat shock proteins in different bovine muscles during aging: their relevance to tenderness and water-holding capacity. Meat Science. 163:108090.

21) Kim, D., **Kim, Y.H.B.,** Ham, J.S., Lee, S.K., Jang, A.* 2020. Pig skin gelatin hydrolysates attenuate acetylcholine esterase activity and scopolamine-induced impairment of memory and learning ability of mice. Food Science of Animal Resources. 40:183-196.

22) Xue, S., Wang, C., Bian, G., **Kim, Y.H.B**., Han, M.*, Xu, X.*, Zhou, G. 2020. Application of high-pressure treatment improves the in vitro protein digestibility of gel-based meat product. Food Chemistry. 306:125602.

23) Xue, S., Hu, J., Cheng, H.W., **Kim, Y.H.B.*** 2019. Effects of probiotic supplementation and postmortem storage condition on the oxidative stability of *Pectoralis major* muscle of laying hens. Poultry Science. 98:7158-7169.

24) Hirsch, A., Cho, Y.H., **Kim, Y.H.B.***, Jones, O.W.* 2019. Contributions of protein and milled chitin extracted from domestic cricket powder to emulsion stabilization. Current Research in Food Science. 1:17-23.

25) Setyabrata, D., Tuell, J., **Kim, Y.H.B.*** 2019. Effect of aging/freezing sequence and freezing rate on quality attributes of beef loins. Meat and Muscle Biology. 3:488-499.

26) Setyabrata, D., **Kim, Y.H.B.*** 2019. Impacts of aging/freezing sequence on microstructure, protein degradation and physico-chemical properties of beef muscles. Meat Science. 151:64-74.

27) Teixeira, P.D., Tekippe, J.A., Rodrigues, L.M., Ladeira, M.M., Pukrop, J.R., **Kim, Y.H.B.**, Schoonmaker, J.P.* 2019. Effect of ruminally protected arginine and lysine supplementation on serum amino acids, performance and carcass traits of feedlot steers. Journal of Animal Science. 97:3511-3522.

28) Balan, P.*, Farouk, M.M., Stuart, A.D., Kemp, R., Staincliffe, M., Craige, C., **Kim, Y.H.B.*** 2019. Effects of electrical stimulation and pre-rigor conditioning temperature on ageing potential of hot-boned beef M. longissimus lumborum. Animal Science Journal. 90:1050-1059.

29) Balan, P.*, **Kim, Y.H.B.***, Stuart, A.D., Kemp, R., Staincliffe, M., Craige, C., Farouk, M.M. 2019. Effect of fast freezing then thaw-aging on meat quality attributes of lamb M. longissimus lumborum. Animal Science Journal. 90:1060-1069.

30) Cramer, T., Kim, H.W., Chao, Y., Wang, W., Cheng, H.W., **Kim, Y.H.B.*** 2018. Supplemental impacts of probiotic (*Bacillus subtilis*) on meat quality and oxidative stability of breast muscle from broilers exposed to chronic heat stress. Poultry Science. 97:3358-3368.

31) **Kim, Y.H.B.***, Ma, D., Setyabrata, D., Farouk, M.M., Lonergan, S.M., Huff-Lonergan, E., Hunt, M.C. 2018. Understanding postmortem biochemical processes and post-harvest aging factors to develop novel smart-aging strategies: A review. Meat Science. 144:74-90.

32) Berger, J., **Kim, Y.H.B.***, Legako, J., Martini, S., Lee, J.W., Ebner, P., Zuelly, S.M.S. 2018. Dry-aging improves meat quality attributes of grass-fed beef loins. Meat Science. 145:285-291.

33) Xue, S., Qian, C., Xu, X., **Kim, Y.H.B.**, Zhou, G*. 2018. High-pressure effects on myosin in relation to heat gelation: A micro-perspective study. Food Hydrocolloids. 84:219-228.

34) Cramer, T., Penick, M.L., Waddell, J.N., Bidwell, C.A., **Kim, Y.H.B.*** 2018. A new insight into meat toughness of callipyge lamb loins – the relevance of anti-apoptotic systems to decreased proteolysis. Meat Science. 140:66-71.

35) Kim, H.W., Kim, J.H., Seo, J.K., Setyabrata, D., **Kim, Y.H.B.*** 2018. Effects of aging/freezing sequence

and freezing rate on meat quality and oxidative stability of pork loins. Meat Science. 139:162-170.

36) Kim, H.W., Setyabrata, D., Lee, Y.J., **Kim, Y.H.B.*** 2018. Efficacy of alkaline-treatment to improve functional properties of sugarcane bagasse fiber as a fat-replacer in meat emulsion. Korea Journal for Food Science of Animal Resources. 38:315-324.

37) Lee, Y.J.*, Kim, H.W., **Kim, Y.H.B.** 2018. New route of chitosan extraction from blue crabs and shrimp shell as flocculants on soybean solutes. Food Science and Biotechnology. 27:461-466.

38) Ma, D., **Kim, Y.H.B.***, Cooper, B., Oh, J., Chun, H., Choe, J.H., Schoonmaker, J., Ajuwon, K., Min, B.R. 2017. Metabolomics profiling to determine effects of postmortem aging on color and lipid oxidative stabilities of different bovine muscles. Journal of Agricultural Food Chemistry. 65:6708-6716.

39) Kim, H.W., Kim, J.H., Yan, F.F., Cheng, H.W, **Kim, Y.H.B.*** 2017. Effects of heat stress and probiotic supplementation on protein functionality and oxidation stability of ground chicken leg meat during display storage. Journal of the Science of Food and Agriculture. 97:5343-5351.

40) Kim, H.W., Cramer, T., Ogbeifun, O.O.E., Seo, J.K., Yan, F.F., Cheng, H.W., **Kim, Y.H.B.*** 2017. Breast meat quality and protein functionality of broilers with different probiotic levels and cyclic heat challenge exposure. Meat and Muscle Biology. 1:81-89.

41) Kim, H.W., Setyabrata, D., Lee, Y.J., Jones, O.G., **Kim, Y.H.B.*** 2017. Effect of house cricket (Acheta domesticus) flour addition on physicochemical and textural properties of meat emulsion under various formulations. Journal of Food Science. 82:2787-2793.

42) Nguyen, E., Jones, O.G., **Kim, Y.H.B.**, San Martin, F., Liceaga, A.* 2017. Impact of microwave-assisted enzymatic hydrolysis on functional and antioxidant properties of rainbow trout (Oncorhynchus mykiss) by-products. Fisheries Science. 83:317-331.

43) **Kim, Y.H.B.***, Meyers, B., Kim, H.W., Liceaga, A., Lemenager, R.P. 2017. Effects of stepwise dry/wet-aging and fast freezing on meat quality attributes of beef loins. Meat Science. 123:57-63.

44) Kim, H.W., **Kim, Y.H.B.*** 2017. Effect of aging and freezing/thawing sequence on quality attributes of bovine *Mm. biceps femoris and gluteus medius*. Asian-Australasian Journal of Animal Sciences. 30:254-261.

45) Kim, H.W., Miller, D.K., Yan, F.F., Wang, W.C., Cheng, H.W, **Kim, Y.H.B.*** 2017. Probiotic supplementation and fast freezing to improve quality attributes and oxidation stability of frozen chicken breast muscle. LWT - Food Science and Technology. 75:34-41.

46) Penick, M., Kim, H.W., Setyabrata, D., Waddell, J.N., Bidwell, C.A., **Kim, Y.H.B.*** 2017. Callipyge genotypic effects on meat quality attributes and oxidation stability of ovine M. longissimus. Small Ruminant Research. 146C:5-12.

47) Kim, H.W., **Kim, Y.H.B.**, Hwang, K.E., Kim, T.K., Jeon, K.H., Kim, Y.B., Choi, Y.S.*, 2017. Effects of gamma-ray, electron-beam, and x-ray irradiation on physicochemical properties of heat-induced gel prepared with salt-soluble pork protein. Food Science and Biotechnology. 26:955-958.

48) Choe, J.H., **Kim, Y.H.B.**, Kim, H.Y., Kim, C.J.* 2017. Evaluations of physicochemical and anti-oxidant properties of powdered leaves from lotus, shepherd's purse and goldenrod in restricted

duck/pork patties. Journal of Food Science and Technology. 54:2494-2502.

49) Choe, J.H., Kim, H.W., Farouk, M.M., **Kim, Y.H.B.*** 2017. Impact of post-mortem ageing prior to freezing on technological properties and oxidation stability of coarse ground lamb sausages. Asian-Australasian Journal of Animal Sciences. 30:1021-1028.

50) Kim, H.W., Setyabrata, D., Lee, Y.J., Jones, O.G., **Kim, Y.H.B.*** 2016. Pre-treated mealworm and silkworm as a novel non-meat ingredient in emulsion sausages. Innovative Food Science and Emerging Technologies. 38:116-123.

51) Kim, H.W., Lee, Y.J., **Kim, Y.H.B.*** 2016. Effects of membrane-filtered soy hull pectin and pre-emulsified fiber/oil on chemical and technological properties of low fat and low salt meat emulsions. Journal of Food Science and Technology. 53:2580-2588.

52) Kim, H.W., Setyabrata, D., Choi, Y.S., **Kim, Y.H.B.*** 2016. Rapid discoloration of aged beef muscles after short-term/extreme temperature abuse during retail display. Korea Journal for Food Science of Animal Resources. 36:343-351.

53) Kim, H.W., Miller, D. K., Lee, Y. J., **Kim, Y.H.B.*** 2016. Effects of soy hull pectin and insoluble fiber on quality and oxidation stability of fresh and frozen/thawed beef patties. Meat Science. 117:63-67.

54) Kim, H.W., Yan, F.F., Hu, J.Y., Cheng, H.W, **Kim, Y.H.B.*** 2016. Effects of probiotics feeding on proteolytic potential and oxidative stability of chicken breast muscles during post-mortem aging. Poultry Science. 95:1457-1464.

55) Subbaraj, A.K*. **Kim, Y.H.B**., Fraser, K., Farouk, M.M. 2016. A hydrophilic interaction liquid chromatography-mass spectrometry (HILIC-MS) based metabolomics study on the effect of ageing, storage conditions and display times on colour stability of ovine meat. Meat Science. 117:163-172.

56) Choe, J.H., Stuart, A., **Kim, Y.H.B.*** 2016. Effect of different ageing temperatures prior to freezing on meat quality attributes of frozen/thawed lamb loins. Meat Science. 116:158-164.

57) Setyabrata, D*., Kim, Y.L., **Kim, Y.H.B.*** 2016. Anisotropy Scanning: Novel imaging analysis for beef tenderness. The Journal of Purdue Undergraduate Research. 6:49-55.

58) **Kim, Y.H.B.***, Kemp. R., Samuelson, L.M. 2016. Effects of dry-aging on meat quality attributes and metabolite profiles of beef loins. Meat Science. 111:168-176.

59) Trinderup, C.H., **Kim, Y.H.B.*** 2015. Fresh meat color evaluation using a structured light imaging system. Food Research International. 71:100-107.

60) Kim, H.W., Lee, Y.J., **Kim, Y.H.B.*** 2015. Evaluation of soy hull fibers and pectin as functional non-meat ingredients in meat emulsion system. LWT - Food Science and Technology. 64:1071-1077.

61) **Kim, Y.H.B.***, Liesse, C., Kemp, R., Balan, P. 2015. Evaluation of combined effects of ageing period and freezing rate on quality attributes of beef loins. Meat Science. 110:40-45.

62) Cruzen, S., **Kim, Y.H.B.**, Lonergan, S.M.*, Grubbs, J.K., Fritchen, A.N., Huff-Lonergan, E.* 2015. Effects of early postmortem enhancement of calcium lactate/phosphate on quality attributes of

beef round muscles under different packaging systems. Meat Science. 101:63-72.

63) **Kim, Y.H.B.*,** Kerr, M., Geesink, G., Warner, R. 2014. Impacts of hanging method and high pre-rigor temperature and duration on quality attributes of ovine muscles. Animal Production Science. 54:414-421.

64) Balan, P., **Kim, Y.H.B.***, Blijenburg, R. 2014. Small heat shock protein degradation could be an indicator of the extent of myofibrillar protein degradation. Meat Science. 97:220-222.

65) Warner, R.*, Kerr, M., **Kim, Y.H.B.**, Geesink, G. 2014. Pre-rigor stretching counteracts the negative effects of high rigor temperature on tenderness and water-holding capacity – using lamb muscles as model. Animal Production Science. 54: 494-503.

66) **Kim, Y.H.B.***, Warner, R., Rosenvold, K. 2014. Influence of fast pH fall at a high rigor temperature on muscle proteins and meat quality: A review. Animal Production Science. 54: 375-395.

67) **Kim, Y.H.B.***, Stuart, A.D., Rosenvold, K., Maclennan, G. 2013. Effect of different forage types and packaging conditions on meat quality characteristics of long-term chilled lamb loins. Journal of Animal Science. 91:1-10.

68) **Kim, Y.H.B.***, Luc, G., Rosenvold, K. 2013. Pre rigor processing, ageing and freezing on tenderness and colour stability of lamb loins. Meat Science. 95:412-418.

69) **Kim, Y.H.B.***, Lonergan, S.M., Grubbs, J.K., Cruzen, S.M., Fritchen, A.N., della Malva, A., Marino, R., Huff-Lonergan, E. 2013. Effect of low voltage electrical stimulation on protein and quality changes in bovine muscles during postmortem ageing. Meat Science. 94:289-296.

70) Pen, S., **Kim, Y.H.B.***, Luc, G., Young, O. 2012. Effect of *pre rigor* stretching on beef tenderness development. Meat Science. 92:681-686.

71) **Kim, Y.H.B.***, Bodker, S., Rosenvold, K. 2012. Influence of lamb age and high-oxygen modified atmosphere packaging on protein polymerization of long-term aged lamb loins. Food Chemistry. 135:122-126.

72) **Kim, Y.H.B.***, Stuart, A., Black, C., Rosenvold, K. 2012. Effect of lamb age and retail packaging types on the quality of long-term chilled lamb loins. Meat Science. 90:962-966

73) **Kim, Y.H.B.***, Stuart, A., Nygaard, G., Rosenvold, K. 2012. High pre rigor temperature limits the ageing potential of beef that is not completely overcome by electrical stimulation and muscle restraining. Meat Science. 91:62-68.

74) **Kim, Y.H.B.*** Lonergan, S.M., Huff-Lonergan, E., Steadham E.D. 2012. Effects of calcium lactate on m-calpain activity and protein degradation under oxidizing condition. Food Chemistry. 131:73-78.

75) McClure, B.N., Sebranek, J.G., **Kim, Y.H.***, Sullivan, G.A. 2011. The effects of lactate on nitrosylmyoglobin formation from nitrite and metmyoglobin in a cured meat system. Food Chem. 129:1072-1079.

76) **Kim, Y.H.B.***, Frandsen, M., Rosenvold, K. 2011. Effect of ageing prior to freezing on colour stability of ovine longissimus muscle. Meat Science. 88:332-337.

77) Rodríguez, G., **Kim, Y.H.***, Faget, S., Rosazza, C., Keeton, J. T. 2011. Lactate-mediated enzymatic reduction of metmyoglobin in vitro. Food Chemistry. 125:732-735.

78) **Kim, Y.H.***, Huff-Lonergan, E., Lonergan, S. M. 2010. Lower oxygen or adding antioxidants. Fleisch

Wirtschaft International. 25:30-31.

79) **Kim, Y.H.***, Keeton, J.T., Hunt, M.C., Savell, J.W. 2010. Effects of L- or D-lactate enhancement on internal cooked color development and biochemical characteristics of beef steaks in high-oxygen modified atmosphere. Food Chemistry. 119:119-122.

80) **Kim, Y.H.***, Lonergan, S.M., Huff-Lonergan, E., Sebranek, J.G. 2010. High oxygen modified atmosphere packaging system negatively affects beef quality characteristics by inducing lipid and myoglobin oxidation and protein polymerization. Meat Science. 85:759-767.

81) **Kim, Y.H.***, Lonergan, S.M., Huff-Lonergan, E., Sebranek, J.G. 2010. Effects of lactate/phosphate injection enhancement on color and lipid oxidation stability and protein degradation of early postmortem beef cuts packaged in high oxygen modified atmosphere. Meat Science. 86:852-858.

82) **Kim, Y.H.***, Huff-Lonergan, E., Lonergan, S.M. 2010. Protein denaturing condition of beef inside semimembranosus muscle caused less protein degradation and μ-calpain autolysis than outside semimembranosus. Meat Science. 86:883-887.

83) **Kim, Y.H.***, Keeton, J.T., Yang, H.S., Smith, S.B., Sawyer, J.E., Savell, J.W. 2009. Color stability and biochemical characteristics of bovine muscles when enhanced with L- or D- potassium lactate in high-oxygen modified atmospheres. Meat Science. 82:234-240.

84) **Kim, Y.H.***, Keeton, J.T, Smith, S.B., Berghman, L.R., and Savell, J.W. 2009. Role of lactate dehydrogenase in metmyoglobin reduction and color stability of different bovine muscles. Meat Science. 83:376-382.

85) **Kim, Y.H.***, Keeton, J.T., Smith, S.B., Maxim, J.E., Yang, H.S., Savell, J.W. 2009. Evaluation of antioxidant property and color stability of calcium lactate enhancement on fresh beef under highly oxidizing condition. Food Chemistry. 115:272-278.

86) **Kim, Y.H.***, Hunt, M.C., Mancini, R., Seyfert, M., Loughin, T., Kropf, D.H., Smith, J.S. 2006. Mechanism for lactate color stabilization in injection enhanced beef. Journal of Agricultural Food Chemistry. 54:7856-7862.

b. Book Chapters:

1) Kang, I., **Kim, Y.H.B*.** 2017. Enhancing Texture and Tenderness in Poultry Meat. In: Achieving sustainable production of poultry meat. Vol.1 Burleigh Dodds Science Publishing. In Print.

2) **Kim, Y.H.B***., Hopkins, D., Channon, H. 2015. Production of meat with high quality. In: Meat Quality: Genetic and environmental factors. CRC Book (Taylor & Francis Books, Inc). pp. 431-459.

3) **Kim, Y.H.B***. Jang, A. 2014. Ethnic Meat Products| Japan and Korea. In: Carrick Devine & Michael Dikeman, editors-in-chief. Encyclopedia of Meat Sciences 2e, Vol. 1, Oxford: Elsevier; pp. 543-549.

4) **Kim, Y.H.B***., Hunt, M.C. 2011. Advanced technology to improve meat color. In: Control of Meat Quality (pp.31-60). Editor: Joo, S.T. Publisher: Research Signpost.

c. Patents:

1) Jun, M.B.G, **Kim, Y.H.B**. 2020. Non-destructive meat quality prediction using novel mechanistic acoustic sound and machine learning techniques: US Provisional Patent #69254-01.

2) **Kim, Y.H.B.**, Tuell, J., Yu, Q. 2019. Developing Smart Tumbling: A simple and novel strategy to improve beef quality attributes in a consistent and natural manner: US Provisional Patent #68560-01.

3) Kim, Y.L., **Kim, Y.H.B*.**, Kim, T. 2016. Nondestructive meat tenderness assessment. US Patent #67178-01

4) **Kim, Y. H. B***., Leath, S., Salerno, M. s., Balan, P., Kemp, R. 2015. A method and control system for optimizing the quality of meat. World Intellectual Property Organization, International Bureau, WO 2015/020537 A1.

d. Thesis and Dissertation

1) **Kim, Y.H.B**. 2008. Identifying the involvement of lactate dehydrogenase on metmyoglobin reducing system and its application to improve color stability of beef primal cuts through lactate enhancement. Ph.D. Dissertation. Texas A & M University, College Station, TX.

2) **Kim, Y.H.B.** 2004. Mechanism for lactate color stabilization in injection enhanced beef. M.S. Thesis. Kansas State University, Manhattan, KS.

e. Conference Proceedings

1) Tuell, J.R.*, Ma, D., and Kim, Y.H.B. 2019. Metabolomics Approach to Improve Meat Quality and Value. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado.

2) Setyabrata, D., Xue, S., Cramer, T., Vierck, K., Legako, J., Kim, Y.H.B.* 2019. Dry-aging as value-adding process for beef loins from cull cow. In Proc. 65th International Congress of Meat Science and Technology. Berlin, Germany.

3) Zhang, J., Ma, D., Kim, Y.H.B.* 2019. Mitochondrial apoptosis and proteolytic changes of myofibrillar proteins in two different pork muscles during aging. In Proc. 65th International Congress of Meat Science and Technology. Berlin, Germany.

4) Setyabrata, D., Ma, D., Cooper, B., Sobreira, T.J.P., Kim, Y.H.B.* 2018. Metabolomics profiling of meat exudate to understand the impact of postmortem aging on oxidative stability of beef muscles. In Proc. 64th International Congress of Meat Science and Technology. Melbourne, Australia.

5) Setyabrata, D., Lee, J., Martini, S., Legako, J., Cooper, B., Sobreira, T.J.P., Kim, Y.H.B.* 2018. Metabolomics profiling and chemical analyses to identify compounds associated with palatability attributes of dry-aged beef loins. In Proc. 64th International Congress of Meat Science and Technology. Melbourne, Australia.

6) Ma, D., Chao, Y., Duttlinger, A.W., Richert, B., Johnson, J.S., Kim, Y.H.B.* 2018. Effect of

transporting weaned pigs under different season on meat quality and postmortem proteolysis of two porcine muscles. In Proc. 64th International Congress of Meat Science and Technology. Melbourne, Australia.

7) Ma, D., Penick, M.L., Cooper, B., Oh, J., Chun, H., Waddell J. N., Bidwell, C.A., Kim, Y.H.B.* 2017. Involvement of apoptosis in meat quality attributes using the callipyge lamb model: 1. The omics approach. In Proc. 63rd International Congress of Meat Science and Technology. Cork, Ireland.

8) Cramer, T.A., Penick, M.L., Waddell J. N., Bidwell, C.A., Kim, Y.H.B.* 2017. Involvement of apoptosis in meat quality attributes using the callipyge lamb model: 2. Heat shock protein 27 and meat toughness. In Proc. 63rd International Congress of Meat Science and Technology. Cork, Ireland.

9) Jung, Y.K., Kim, H.W., Kim, Y.H.B., Bae, E.W. 2017. Design of smartphone-based spectrometer to assess fresh meat color. In Proc. *SPIE* 10072, Optical Diagnostics and Sensing XVII: Toward Point-of-Care Diagnostics, 1007213 (February 17, 2017).

10) Kim, Y.H.B.* 2014. Practical applications to improve meat color. In Proc. 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison.

11) Kim, Y.H.B.* 2014. Novel approaches to enhance meat quality and functional properties of muscle-protein based products. In Proc. The 81st Annual Meeting of Korean Society of Food Science and Technology: Creative Food Science for the future, Gwangju, Korea.

12) Balan, P., Kim, Y.H.B.*, Stuart, A., Kemp, R., Farouk, M.M. 2014. Effects of electrical stimulation and pre-rigor conditioning temperature on ageing potential of hot-boned beef muscle. In Proc. 60th International Congress of Meat Science and Technology. Uruguay.

13) Kim, Y.H.B.*, Luc, G., Rosenvold, K. 2012. Early activation of μ-calpain could limit ageing potential of ovine *M. longissimus*. In Proc. 58th International Congress of Meat Science and Technology. Montreal, Canada.

14) Kim, Y.H.B.*, Stuart, A.D., Rosenvold, K., Maclennan, G. 2012. Impacts of different forages and packaging conditions on colour and lipid oxidation stability of lamb loins. In the 2012 Conference of the New Zealand Society of Animal Production, Christchurch, New Zealand.

15) Kim, Y.H.B.*, Bodker, S., Rosenvold, K. 2011. High-oxygen modified atmosphere packaging induced protein polymerization of myosin heavy chain and decreased tenderness of ovine M. longissimus during retail display. In Proc. 57th International Congress of Meat Science and Technology. Belgium.

16) Chin, K.B., Kim, Y.H.B.*, Rosenvold, K. 2011. Evaluation of storage condition and phosphate addition on the physicochemical properties and textural characteristics of model lamb sausages. In Proc. 57th International Congress of Meat Science and Technology. Belgium.

17) Huff-Lonergan, E., Anderson, M.J., Kim, Y.H., Lonergan, S.M. 2011. Proteomics – Tenderness application of proteomics tools to define contributions of protein to variation in meat tenderness. American Meat Society Association (AMSA) 64th Reciprocal Meat Conference (RMC), Kansas State University, Manhattan, Kansas.

18) Kim, Y.H.*, Lonergan, S. M., Huff-Loneran, E. 2010. Influence of high-oxygen and lactate/phosphate enhancement on proteolysis, protein polymerization, and tenderness of postmortem beef muscles. In Proc. 56th International Congress of Meat Science and Technology. Jeju, Korea.

19) Kim, Y.H.*, Fritchen, A., Grubbs, J. K., Anderson, M. J., Lonergan, S. M., Huff-Loneran, E. 2010. Protein denaturation of beef deep semimembranosus muscle negatively affects meat tenderness by limiting protein degradation and μ-calpain autolysis. In Proc. 56th International Congress of Meat Science and Technology. Jeju, Korea.

20) Lonergan, S. M., Huff-Lonergan, E., Kim, Y.H., Lametsch, R. 2009. Protein oxidation and regulation of μ-Calpain: Implications for meat quality. In Proc. 55th International Congress of Meat Science and Technology. Copenhagen, Denmark.

21) Rodríguez, G., Faget, S., Rosazza, C., Sander, C., Meiberg, J., Keeton, J. T., Kim, Y. H. 2008. Verification of the mechanism of lactate on metmyoglobin-reducing activity and color stability of fresh bovine extracts. In Proc. 54th International Congress of Meat Science and Technology.

22) Kim, Y.H.*, Keeton, J. T. Smith, S. B., Savell, J. W. 2007. Involvement of lactate dehydrogenase in metmyoglobin reduction and color stability of different bovine muscles. In Proc. 53rd International Congress of Meat Science and Technology. pp 173-174.

23) Kim, Y.H.*, Hunt, M.C., Mancini, R., Kropf, D.H., Smith, J.S. 2005. Metmyoglobin reduction through lactate-NAD-LDH system in vivo and in vitro. In Proc. 51st International Congress of Meat Science and Technology. Beijing, China.

24) Mancini, R., Kim, Y.H., Hunt, M.C. 2004. How does Lactate enhancement improve beef color stability? In Proc. 50th International Congress of Meat Science and Technology. Helsinki, Finland. pp. 53.

f. Abstracts:

1) Tuell, J., Yu, Q., Kim, Y.H.B.*. 2020. Impacts of smart tumbling on muscle ultrastructure, proteolysis and quality attributes of fresh beef loins (M. longissimus lumborum). The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

2) Tuell, J., Kim, Y.H.B.*. 2020. Smart tumbling improved quality and palatability attributes of fresh beef M. longissimus lumborum and M. semitendinosus. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

3) Nondorf, M., Tuell, J., Maskal, J., Johnson, J., Kim, Y.H.B.*. 2020. Carcass and meat quality traits of market weight gilts exposed to in utero heat stress. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

4) Wagner, A., Setyabrata, D., Kim, Y.H.B.* 2020. Effect of dry-aging on quality attributes of pork loins. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

5) Setyabrata, D., Xue, S., Vierck, K., Legako, J., Cooper, B., Sobreira, T., Kim, Y.H.B.*. 2020. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

6) Zhang, J., Abdelhaseib, M., Kim, Y.H.B.*. 2020. Effect of early postmortem oxidative stress on mitochondrial redox stability and apoptosis of two porcine muscles. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting.

7) Setyabrata, D., Lee, J., Martini, S., Legako, J., Sobreira, T., Kim, Y.H.B.* 2019. Further investigation of dry-aging impacts on palatability attributes and metabolomic profiles of beef loins. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado.

8) Ma, D., Suh, D.H., Zhang, J., Duttlinger, A., Johnson, J.S., Lee, C.H., Kim, Y.H.B.* 2019. Apoptotic and proteolytic attributes and metabolomic changes in postmortem muscles from pigs subjected to post-weaning transport at different seasons. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado.

9) Xue, S., Setyabrata, D., Han, M., Xu, X., Kim, Y.H.B.* 2019. Efficacy of beef crust from dry-aged beef loins as functional ingredient. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado.

10) Park, J.Y., Tuell, J.R., Wang, W., Cheng, H.W., Kim, Y.H.B.* 2019. Functional/physicochemical properties and oxidative stability of ground meat from broilers exposed to different photoperiods. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado.

11) Setyabrata, D., Tuell, J., Kim, Y.H.B.* 2018. Effect of aging/freezing sequence and freezing rate on quality attributes of beef loins. IFT. Chicago, Illinois.

12) Guedes-Oliveira, J.M., Xue, S., Setyabrata, D., Kim, Y.H.B.* 2018. Effect of cilantro extract (*Coriandrum sativum*) application on color and oxidative stability of ground pork under different packaging conditions. The 71st Annual Reciprocal Meat Conference, Kansas City, Missouri.

13) Tuell, J., Kim, H.W., Setyabrata, D., Guedes-Oliveira, J.M., Seo, J.K., Schoonmaker, J., Kim, Y.H.B.* 2018. Supplementing beef steers with ruminal bypass arginine improves oxidative stability of aged beef loins. The 71st Annual Reciprocal Meat Conference, Kansas City, Missouri.

14) Setyabrata, D., Lee, J., Martini, S., Legako, J., Sobreira, T.J.P., Kim, Y.H.B.* 2018. Further investigations of dry-aging impacts on palatability attributes and metabolomic profiles of beef loins. The 71st Annual Reciprocal Meat Conference, Kansas City, Missouri.

15) Ma, D., Guedes-Oliveira, J.M., Duttlinger, A.W., Johnson, J.S., Kim, Y.H.B.* 2018. Effect of L-glutamine supplementation in replacement of antibiotics on meat quality attributes of pigs exposed to transport and weaning stress during different seasons. The 71st Annual Reciprocal Meat Conference, Kansas City, Missouri.

16) Kim, H.W., Cramer, T., Ogbeifun, O., Yan, F.F., Cheng, H.W., Kim, Y.H.B.* 2017. Effects of probiotic feeding level on meat quality of breast muscle from broiler exposed to cyclic heat stress. Poultry Science Association (PSA) Annual Meeting. Orlando, Florida.

17) Berger, J., Kim, H.W., Lee, J., Martini, S., Legako, J., Zuelly, S., Ebner, P., Kim, Y.H.B.* 2017. Dry-aging improves eating quality attributes of low marbled grass-fed beef loins. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

18) Bland, N., Kim, H.W., Ogbeifun, O., Kim, Y.H.B.* 2017. A new paradigm for dry-aging: Effects of fat dry-aging on physicochemical and textural characteristics of ground beef patties. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

19) Chao, Y., Kim, H.W., Cramer, T., Cheng, H.W., Kim, Y.H.B.* 2017. Effect of probiotic feeding on oxidative stability and meat quality attributes of breast muscle from chickens exposed to chronic heat stress. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

20) Setyabrata, D., Kim, Y.H.B.* 2017. Effects of fast freezing first then thaw-aging on quality and chemical attributes of beef muscles. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

21) Ma, D., Kim, Y.H.B.* 2017. Effects of postmortem aging on small heat shock protein degradation of three bovine muscles. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

22) Seo, J.K., Kim, H.W., Kim, Y.H.B.* 2017. Effect of initial freezing rate and subsequent freezing/thawing on quality and physicochemical characteristics of pork patties. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

23) Ham, Y.K., Kim, H.W., Choi, Y.S., Kim, Y.H.B.*, Kim, C.J. 2017. Effects of irradiation source and dose level on oxidative stability of ground pork. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

24) Kim, J.H., Kim, H.W., Kim, Y.H.B.* 2017. Combined effects of freezing rate and thawing/cooking methods on physicochemical and textural properties of pork patties. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

25) Kim, H.W., Kim, J.H., Seo, J.K., Setyabrata, D., Kim, Y.H.B.* 2017. Impacts of aging sequence and freezing rate on quality attributes and oxidative stability of frozen/thawed pork loins. The 70th Annual Reciprocal Meat Conference, College Station, Texas.

26) Setyabrata, D., Kim, H.W., Kim, Y.H.B.* 2017. Impacts of postmortem aging on non-heme iron formation and lipid oxidation stability of beef loins. Annual Meeting of Institute of Food Technologists. Las Vegas, Nevada.

27) Setyabrata, D., Kim, H.W., Berger, J., Zuelly, S.M., Kim, Y.H.B.* 2016. Effects of dry-aging on color and oxidation stabilities of beef loins. The 69th Annual Reciprocal Meat Conference, San Angelo, Texas.

28) Cramer, T., Kim, H.W., Setyabrata, D., Wang, W.C., Yan, F.F., Cheng, H.W., Kim, Y.H.B.* 2016. Effect of probiotic supplementation on meat quality attributes of broilers exposed to chronic heat stress. Poultry Science Association (PSA) Annual Meeting. New Orleans, Louisiana.

29) Kim, H.W., Kim, Y.H.B.*, Lee, Y.J., Setyabrata, D. 2016. Pre-treated mealworm and silkworm as a novel non-meat ingredient in meat emulsion. Annual Meeting of Institute of Food Technologists. Chicago, Illinois.

30) Ma, D., Cooper, B.R., Oh, J.H., Chun, H.H., Kim, Y.H.B.* 2016. Further investigation of metabolomic profiles to understand the effect of postmortem aging on color and lipid oxidation stabilities of different bovine muscles. The 69th Annual Reciprocal Meat Conference, San Angelo, Texas.

31) Miller, D.K., Kim, H.W., Wang, W.C., Yan, F.F., Hu, J.Y., Cheng, H.W., Kim, Y.H.B.* 2016. Effect of probiotic supplementation and fast freezing on quality attributes of chicken breast meat. The 69th Annual Reciprocal Meat Conference, San Angelo, Texas.

32) Kim, H.W., Kim, Y.H.B.* 2016. Revisiting the effect of postmortem aging on water-holding capacity of beef loins by comparing various analytical methods. The 69th Annual Reciprocal Meat Conference, San Angelo, Texas.

33) Cramer, T., Penick, M., Waddell, J.F., Kim, Y.H.B*. 2016. Elucidating the role of apoptosis in meat tenderization using the callipyge lamb model. The 69th Annual Reciprocal Meat Conference, San Angelo, Texas.

34) Osamudiamen Ogbeifun, Kim, H.W., Cramer, T., Kim, Y.H.B*. Effects of Probiotics Feeding Levels on Meat Quality and Lipid Oxidation Stability of Breast Muscles from Heat Stressed Broilers. *The Summer Undergraduate Research Fellowship (SURF) Symposium.* Paper 93.

35) Nguyen, E., Jones, O., Kim, Y.H.B., San Martin-Gonzalez, F., Liceaga, A. 2016. Antioxidant activity and functional properties of microwave-assisted Rainbow trout (Oncorhynchus mykiss) by-product hydrolysates. The 7th World Fisheries Congress, Busan Korea.

36) Nguyen, E., Jones, O., Kim, Y.H.B., San Martin-Gonzalez, F., Liceaga, A. 2015. Enhanced functional properties and antioxidant activity of Rainbow Trout (Oncorhynchus mykiss) by-product hydrolysates derived from microwave-assisted hydrolysis. The 5th Trans-Atlantic Fisheries Technology Conference, Nantes, France.

37) Ma, D., Kim, Y.H.B.*, Choe, J., Cooper, B. 2015. Metabolomics profiling to understand changes in oxidation stability of different bovine muscles with postmortem aging. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

38) Cramer, T., Kim, Y.H.B.*, Penick, M., Waddell, J., Bidwell, C. 2015. Small heat shock protein 27 may be related to toughness in loins of callipyge lamb. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

39) Penick, M., Kim, Y.H.B.*, Cramer, T., Waddell, J. Bidwell, C., Cooper, B. 2015. Metabolomics approach to elucidate meat quality traits of loins from callipyge sheep. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

40) Ma, D., Choe, J., Min, B., Trinderup, C. H., Kim, Y.H.B.* 2015. Effect of postmortem aging on color and lipid oxidation stability of different bovine muscles. IFT. Chicago, Illinois.

41) Meyers, B., Kim, Y.H.B.*, Liceaga, A., Lemenager, R. 2015. Effects of stepwise dry/wet aging on physical, chemical and quality attributes of beef loins. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

42) Miller, D., Kim, H.W., Lee, Y.J., Kim, Y.H.B.* 2015. Effects of soy hull fibers and freezing on quality attributes of beef patties. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

43) Kim, Y.H.B.*, Setyabrata, D., Kim, T., Kim, Y.L. 2015. Meat tenderness assessment using anisotropy imaging analysis. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska

44) Kim, H.W., Lee, Y.J., Kim, Y.H.B.* 2015. Effects of soy hull fibers and sunflower oil on physicochemical and textural properties of reduced-salt and fat meat emulsions. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska.

45) Nguyen, E., Jones, O., Kim, Y.H.B., San Martin-Gonzalez, F., Liceaga, A. 2015. Effect of Microwave-assisted Hydrolysis on Functional Properties of Rainbow Trout (Oncorhynchus mykiss) By-product Hydrolysates. IFT. Chicago, Illinois.

46) Meyers, B., Liceaga, A., Kim, Y.H.B.* 2015. Effects of sequential dry/wet aging and fast freezing on physical, chemical and quality attributes of beef loins. IFT. Chicago, Illinois

47) Kim, H.W., Lee, Y.J., Kim, Y.H.B.* 2015. Evaluation of Chemical Extraction Methods for Soy Hull Fiber and Pectin and Its Impacts on Meat Emulsions as Functional Ingredients. IFT. Chicago, Illinois.

48) Setyabrata, D., Kim, H.W., Kim, Y.H.B.* 2015. Effects of aging time and retail display period with a short-term temperature abuse on color stability of two beef muscles. UKC (US-Korea Conference on Science, Technology, and Entrepreneurship. Atlanta, Georgia.

49) Kim, Y.H.B.*, Kemp, R., Samuelsson, L.M. 2015. Dry-aging improves meat quality and metabolite profiles of beef loins. NZIFST conference. Palmerstone North, New Zealand.

50) Trinderup, C., Kim, Y.H.B.* 2014. Meat color assessment using a structured light imaging system. The 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison.

51) Kim, Y.H.B.*, Liesse, C., Kemp, R. 2014. Effects of fast freezing on meat quality attributes of pre-aged beef loins. The 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison.

52) Kim, Y.H.B.*, Liesse, C., Choe, J., Kemp, R. 2014. Effect of different freezing/thawing methods on meat quality attributes of pre-aged lamb loins. The 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison.

53) Choe, J., Kim, Y.H.B.* 2014. Effect of ageing prior to freezing on functional and oxidative properties of coarse ground lamb sausage in model systems. The 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison.

54) Kim, Y.H.B.*, Stuart, A., Maclennan, G. 2014. Effect of gender/castration status on color and lipid oxidation stability of long-term chilled lamb muscles. Mid-West ASAS, Des Moines, IA.

55) Grubbs, J.K., Fritchen, A.N., Kim, Y.H., Cruzen, S.M., Lonergan, S.M., Huff-Loneran, E. 2011. The use of calcium lactate to improve quality in beef round muscles in high-oxygen atmosphere packaging. RMC. Manhattan, Kansas.

56) Grubbs, J.K., Fritchen, A.N., Kim, Y.H., Lonergan, S.M., Huff-Loneran, E. 2011. Use of electrical stimulation to promote tenderness in the beef round muscles. Midwest ADSA-ASAS Joint Meeting. Des Moins, IA.

57) Kim, Y.H.*, Huff-Lonergan, E., Lonergan, S.M. 2010. Lactate/phosphate injection enhancement improved oxidation stability and tenderness of postmortem beef cuts packaged in high oxygen modified atmosphere. Midwest ADSA-ASAS Joint Meeting. Des Moins, IA.

58) Fritchen, A.N., Kim, Y.H.*, Hosch, J.J., Lonergan, S.M., Huff-Lonergan, E. 2010. Protein denaturing condition of beef inside semimembranosus muscle caused less protein degradation and μ-calpain autolysis than outside semimembranosus. March. Midwest ADSA-ASAS Joint Meeting. Des Moins, IA.

59) Kim, Y.H.*, Lonergan, S.M., Huff-Lonergan, E. High oxygen packaging system negatively affects color stability and sensory attributes of beef cuts. 2009. June. RMC, Rogers, AR.

60) Kim, Y.H.*, Steadham E.D., Lonergan, S.M., Huff-Lonergan, E. 2009. Antioxidant capacity of calcium lactate on m-calpain activity in vitro. Midwest ADSA-ASAS Joint Meeting. Des Moins, IA.

61) Kim, Y.H.*, Keeton, J.T., Savell, J.W. 2008. Prevention of internal premature browning in cooked steaks packaged in high-oxygen modified atmosphere by increasing reducing ability through lactate enhancement. ADSA-ASAS Joint Annual Meeting. Indianapolis, IN.

62) Kim, Y.H.*, Keeton, J.T., Savell, J.W. 2008. Improvement of color stability of bovine muscles through lactate-LDH system. IFT, New Orleans, LA.

63) Kim, Y.H.*, Keeton, J.T., Smith, S.B., Savell, J.W. 2008. Evaluation of antioxidant property and color stability of calcium lactate enhancement on fresh beef under highly oxidizing condition. RMC, Gainesville, FL.

64) Kim, Y.H.*, Keeton, J.T. Smith, S.B., Savell, J.W. 2007. Color stability and wateholding capacity of different bovine muscles and involvement of lactate dehydrogenase in metmyoglobin reduction of muscles. IFT. Chicago, IL.

65) Kim, Y.H.*, Hunt, M.C., Mancini, R., Kropf, D.H., Smith, J.S. 2005. Mechanism for lactate color stabilization in enhanced beef. IFT. New Orleans, LA.

NON-REFEREED PUBLICATIONS

1) Xue, S., Setyabrata, D., Kim, Y.H.B.* 2020. Getting innovative with dry-aged beef crust as a value-adding ingredient. Meatingplace. https://www.meatingplace.com/Industry/TechnicalArticles/Details/91100

2) Setyabrata, D., Lee, J.W., Martini, S., Legako, J., Sobreira, T., Kim, Y.H.B.* 2018. Hunting compounds crucial to dry aging flavor. National Provisioner. BNP Media II, L.L.C., Troy, MI.

3) Tuell, J., Kim, H.W., Guedes, J., Seo, J.K., Schoonmaker, J., Kim, Y.H.B.* 2018. Ruminal bypass arginine and beef product discoloration. National Provisioner. BNP Media II, L.L.C., Troy, MI. https://www.provisioneronline.com/articles/107097-ruminal-bypass-arginine-and-beef-product-discoloration.

4) Chao, Y., Kim, H.W., Cramer, T., Cheng, H.W., Kim, Y.H.B.* 2018. Can probiotics help combat heat stress in broiler chickens? BNP Media II, L.L.C., Troy, MI. https://www.provisioneronline.com/articles/106208-can-probiotics-help-combat-heat-stress-in-broiler-chickens

5) Kim, Y.H.B*. Purdue Animal Sciences and Meat Science. Journal of Korean Animal Products and Industry. 2016. 5(2):93-97.

6) Setyabrata, D., Kim, H.W., Berger, J., Zuelly, S.M., Kim, Y.H.B*. 2016. Effects of dry-aging on color and oxidation stabilities of beef loins. National Provisioner. BNP Media II, L.L.C., Troy, MI.

7) Kim, Y.H.B*. 2016. Meat Science Review: Identifying optimal dry-aging regimes for improving beef quality. National Provisioner. BNP Media II, L.L.C., Troy, MI.

8) Cruzen, S., Grubbs, J., Kim, Y.H.B., Lonergan, S., Huff-Lonergan, E. 2015. Meat Science Review: Enhancing the beef round for retail display. National Provisioner. BNP Media II, L.L.C., Troy, MI.

INVITED PRESENTATIONS

a) State

1) Improving meat quality and value from farm to fork. Kim, Y.H.B*. Department of Animal Sciences Seminar. Purdue University, March 2017.

2) Invited oral presentation. Indiana Beef Cattle Association Annual Meeting. Kim, Y.H.B*. Meat research initiatives and how it fits freezer beef in IN. June 2014.

b) National

1) Dry- aging beef: Bridging the gap between science and art. AMSA Special Webinar Invited Presentation. AMSA, October 2019.

2) Metabolomics approach to improve meat quality and value. Invited Plenary Keynote Lecture. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado. June 2019.

3) Dry- aging beef: Bridging the gap between science and art. Invited Session Presentation. The 72nd Annual Reciprocal Meat Conference, Fort Collins, Colorado. June 2019.

4) Improving meat quality and value from farm to fork. Department of Animal & Food Sciences Seminar. University of Kentucky. October 2017.

5) Pre-and post-harvest factors affecting lamb meat quality attributes. The 68th Annual Reciprocal Meat Conference. Lincoln, Nebraska. June 2015.

6) Meat tenderness assessment using anisotropy imaging analysis. The 68th Annual Reciprocal Meat Conference, Lincoln, Nebraska. June 2015.

7) Practical applications to improve meat color. The 67th Annual Reciprocal Meat Conference. University of Wisconsin, Madison. June 2014.

c) International

1) Understanding postmortem biochemical processes and post-harvest aging factors to develop novel smart-aging strategies. Invited Plenary Keynote Lecture. The 64th International Congress of Meat Science and Technology. Melbourne, Australia. August 2018.

2) Dry-Aging as a Case Study - Blending Science and Craftsmanship: Perspectives on Meat Culinary Innovations. Invited Plenary Keynote Presentation. IFT. Chicago, Illinois. July 2018.

3) Novel approaches to improve fresh meat quality and values. Department of Food Science. Invited Lecture. Konkuk University, Seoul, Korea. June 2018.

4) Developing Smart-aging strategies to improve meat quality and value. Invited Presentation. National Institute of Animal Sciences. Jeonju, Korea. June 2018.

5) Meat The Future: Smart-aging strategies to improve meat quality and value. Invited Seminar. Koran Food Research Institute. Jeonju, Korea. June 2018.

6) Developing Smart-aging strategies to improve meat quality and value. Invited Keynote Presentation. The 50th International Conference of Korean Society for Food Science of Animal Resources. Jeju Island, Korea. May 2018.

7) Improving meat quality and value from farm to fork. Department of Animal and Food Sciences. Invited Lecture. Seoul National University, Seoul, Korea. June 2017.

8) Purdue Meat Research Update: Improving meat quality and value from farm to fork. National Institute of Animal Sciences. Invited Seminar. Jeonju, Korea. June 2017.

9) Purdue Meat Research Update: Improving meat quality and value from farm to fork. Koran Food Research Institute. Invited Seminar. Seoul, Korea. May 2017.

10) Improving meat quality and value from farm to fork. Department of Food Science. Invited Lecture. Konkuk University, Seoul, Korea. May 2017.

11) Novel approaches to enhance meat quality and functional properties of muscle-protein based products. Invited oral presentation. The 81st Annual Meeting of Korean Society of Food Science and Technology: Creative Food Science for the future, Gwangju, Korea. August 2014.

12) Potential functional ingredients from various foods. Symposium of functional foods research center. Chonnam National University, Gwangju, Korea. November 2013.

13) Novel approaches to enhance meat quality and functional properties of muscle-protein based

products. Korean Society of Rumen Function Studies Kyungbook National University, Sangju, Korea. November 2013.

14) Frozen meat with superior quality. New Zealand Institute of Food Science and Technology Conference, Hastings, New Zealand. July 2013.

15) Frozen meat with superior quality. AgResearch Meat Industry Workshop, Hamilton, New Zealand. March 2013.

16) Impact of different gender/castration status on color and lipid oxidation stability of long-term chilled lamb meat. Meat Industry Association, Hamilton, New Zealand. March 2013.

17) Early activation of μ-calpain could limit ageing potential of ovine *M. longissimus*. Kim, Y.H.B.*, Luc, G., Rosenvold, K. The 58th International Congress of Meat Science and Technology. Montreal, Canada. August 2012.

18) Impacts of different forages and packaging conditions on colour and lipid oxidation stability of lamb loins. Kim, Y.H.B.*, Stuart, A.D., Rosenvold, K., Maclennan, G. The New Zealand Society of Animal Production Conference, Christchurch, New Zealand. July 2012.

19) Mapping the high-oxygen MAP: Its impacts on meat quality. New Zealand Institute of Food Science and Technology Conference, Hamilton, New Zealand. June 2012.

20) Further elucidation of impact of aged/frozen treatment on meat quality. AgResearch Meat Industry Workshop, Palmerstone North, New Zealand. November 2011.

21) Effect of different forage types and packaging conditions on colour stability of long-term chilled lamb loins. Meat Industry Association, Palmerstone North, New Zealand. November 2011.

22) Improving beef quality by minimizing oxidative and protein denaturing conditions. AgResearch Meat Industry Workshop, Hamilton, New Zealand. October 2010.

23) Novel approaches to improve meat color and color stability. Korean Society for Food Science of Animal Resources. South Korea. May 2006.

GRANT APPLICATIONS

- **Funded Projects (total of $2,252,384):**

1) **Purdue AgSEED grant** (FY 2022-2023) **–** Identifying muscle-specific microbial ecology through novel meat purge analysis to improve beef freshness and safety. **PI: Kim** (Co-PI: Cooper). **$50,000.**

2) **National Cattlemen's Beef Association** (FY. 2021-2022) – Sensory and chemical characterization of ground beef and plant-based alternative proteins. **PI: Legako** (Co-PI: Kim). **$101,594.**

3) **Idaho Beef Council** (FY. 2021-2022) – Sensory and chemical characterization of commercially dry-aged beef. **PI: Bass** (Co-PI: Kim). **$70,962.**

4) **USDA-NIFA AFRI** (FY 2020-2024) – Unlocking value from beef exudate: Metabolomics profiling of beef exudate to delineate muscle-specific oxidative mechanisms. **PI: Kim** (Co-PI: Cooper). **$470,000.**

5) **National Cattlemen's Beef Association** (FY. 2019-2020) – Developing smart tumbling: A simple and novel strategy to improve beef quality attributes in a consistent and natural manner. **PI: Kim** (Co-PI: Zuelly). **$58,337.**

6) **Purdue AgSEED grant** (FY 2020-2022) **–** Identifying muscle-specific mechanisms to improve fresh meat color from long-term aged meat. **PI: Kim** (Co-PI: Cooper). **$50,000.**

7) **USDA-NIFA AFRI** (FY 2017-2019)– Value added beef from low quality beef: Optimized dry-aging to improve palatability attributes and profitability of cull cow beef**. PI: Kim** (Co-PI: Ebner, Cooper, Widmar, Thompson, Legako and Martini) **$363,822**.

8) **Purdue AgSEED grant** (FY 2017-2018)**–** Mitigating the impact of heat stress in poultry: Effects of microbial probiotic supplementation on preventing heat stress-induced quality defects in broiler meat. **PI: Kim** (Co-PI: Cheng, Kim, Ballard). **$50,000.**

9) **Brain Korea 21 Program**, Gyeongsang National University, Korea (International Collaboration Fund; FY 2016-2018). New Insight into Frozen/Thawed meat. **PI: Kim. $10,000**

10) **Konkuk University**, Korea (International Collaboration Fund; FY 2016-2018)/Novel aging method to improve quality and value of underutilized meat products. **PI: Kim. $10,000**

11) **Purdue AgSEED grant** (FY 2016-2017). Value-Added Hoosier Beef: Developing optimal dry-aging to improve palatability attributes of locally raised grass-fed beef. **PI: Kim. $50,000**

12) **Purdue Research Foundation** (FY 2016), Summer Faculty Grant. Novel scattering anisotropy imaging analysis for predicting meat tenderness. **PI: Kim. $8,000**

13) **Purdue College of Agriculture,** Office of Academic Programs, Undergraduate Research Grant. **PI: Kim. $6,750**

14) **Indiana Beef Council** (FY 2015-2016). Developing sequential aging/freezing systems to improve meat quality attributes of Hoosier Freezer Beef. **PI: Kim. $3,000**

15) **ANZCO Food Ltd**., New Zealand (FY 2014). Meat Quality Consultation. **PI: Kim. $420**

16) **AgResearch Core Funding**. New Zealand (FY 2013). Identifying the optimal dry-ageing conditions for NZ grass-fed beef. **PI: Kim. $100,000**.

17) **Silver Fern Farms Ltd**., & **AgResearch Core Funding.** New Zealand (FY 2012 -2013). Impacts of fast freezing on meat quality attributes of various lamb cuts. **PI: Kim. $72,700**.

18) **The Agricultural and Marketing Research And Development Trust (AGMARDT) -** Research Fellowship Grant. New Zealand (FY. 2012-2014). Novel approaches to enhance the value of New Zealand beef – optimizing proteolytic enzyme activities to maximize ageing-potential of intermediate pH bull beef. **PI: Kim. $480,000.**

19) **Meat Research Fund** – New Zealand Meat Industry Association. (FY. 2012-2013). Proteomic and genomic approach to further elucidate the mechanism governing lamb colour stability. **PI: Kim. $167,000**.

20) **National Cattlemen's Beef Association** (FY. 2009). Improving quality of beef round muscles packaged in high-oxygen modified atmosphere through early postmortem calcium lactate enhancement. **co-PI: Kim** (PI: Huff-Lonergan). **$75,376.** (co-funded with Purac Inc).

21) **National Cattlemen's Beef Association** (FY. 2009). Improving quality of the beef round: What is the role of electrical stimulation? **co-PI: Kim** (PI: Huff-Lonergan). **$50,833.**

TEACHING/ MENTORING EXPERIENCE

- **Assistant Professor, Department of Animal Sciences, Purdue, USA 2014 to Present**

TEACHING

a. Course development and instruction

ANSC 55200 (formerly 59500), Advanced Meat Science. This is a 3 credit course, newly developed by Dr. Kim (sole-instructor) targeting graduate students (75%) and senior undergraduate students (25%). It is the first graduate-level course offered at Purdue with a primary focus on Meat Science and Technology. The overall goal of the course is to provide students with an advanced understanding of meat science and technology. In order to complete this goal, Dr. Kim applied various class activities including classroom lecture (PowerPoint slides, video web-links, and/or animations), group discussion for hot-topics in meat science, critical reading of literature, written assignments and exams, and/or student projects (grant writing and presentation). Guest lectures (other faculty members and/or industry experts) were invited occasionally to strengthen learning outcomes for relevant subject areas in the course.

ANSC 35100, Meat Science. This is a 3 credit course, targeting junior and senior undergraduate students (~150 students). In this course, Dr. Kim challenges students to demonstrate the basic biochemical processes involved in the conversion of muscle into meat for food, identify factors that contribute to meat palatability and the methods used to evaluate and enhance palatability, and apply meat science knowledge and problem solving to the meat quality and safety. Also, Dr. Kim has a few students taking this course as "honors by contract", who are to discuss contemporary issues in the meat industry and those associated with meat quality and consumption as their Honors projects.

c. Course evaluation

Course	Year	University Core		Dept. Core					
		1	2	3	4	5	6	7	8

ANSC 59500	F2015	4.8	4.9	4.9	4.8	4.8	4.6	4.9	4.9
ANSC 59500	F2016	5.0	5.0	5.0	5.0	4.3	5.0	5.0	5.0
ANSC 59500	F2017	5.0	5.0	5.0	5.0	5.0	4.8	4.3	4.8
ANSC 55200	F2019	4.8	4.8	4.8	4.7	4.3	4.9	4.6	4.7
ANSC 35100	S2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANSC 55200	F2020	-	-	-	-	-	-	-	-
ANSC 69100	F2020	-	-	-	-	-	-	-	-

[a]University Core Questions: (5 = Excellent; 1 = Very Poor)
1. Overall, I would rate this course as:
2. Overall, I would rate this instructor as:

[b]Departmental Core Questions: (5 = Excellent; 1 = Very Poor)
3. This course builds understanding of concepts and principles:
4. The climate of this course is conducive to learning:
5. This course effectively challenges me to think:
6. My instructor seems well-prepared for class:
7. Students are encouraged to see the instructor if they are having difficulty:
8. My instructor give exams which accurately reflect the course material:

d. Other Courses Taught by Dr. Kim at Purdue University

ANSC 49100, Independent Undergraduate Research, 3 credits.

1) **ANSC 49100,** 2 credits. Anna Wagner enrolled as sole student (Fall 2019, Spring 2020). Supervised undergraduate research project.
2) **ANSC 49100,** 2 credits. Erin Will enrolled sole student (Fall 2018). Supervised undergraduate research project.
3) **ANSC 49100,** 2 credits. Yufan Chaol enrolled (Fall 2017, Spring 2018). Supervised undergraduate research project.
4) **ANSC 49100,** 3 credits. Jacob Tuell enrolled (Fall 2017, Spring 2018). Supervised undergraduate research project.
5) **ANSC 49100,** 3 credits. Nicholas Bland enrolled (Fall 2067, Spring 2017). Supervised undergraduate research project.
6) **ANSC 49100,** 2 credits. Krizia Lepiz-Conejo enrolled (Spring 2017). Supervised undergraduate research project.
7) **ANSC 49100,** 2 credits. Danielle Michael enrolled (Spring 2015). Supervised undergraduate research project.

8) **ANSC 49100,** 3 credits. Traci Cramer enrolled (Fall 2014). Supervised undergraduate research project.
9) **ANSC 49100,** 3 credits. Derico Setyabrata enrolled (Spring 2014). Supervised undergraduate research project.
10) **ANSC 49100,** 3 credits. Danika Miller enrolled (Spring 2014). Supervised undergraduate research project.

e. Invited Guest Lectures in Other Courses

ANSC 35100 – Meat Science (Primary Instructor: Dr. Jolena Waddell; Dr. Stacy Zuelly), 3 credits. Dr Kim gave guest lectures in the course to teach various meat science subjects.

a. 2014 Spring Semester: 1 lecture
b. 2015 Spring Semester: 1 lecture

FS 59100- Functional Foods (Primary Instructor: Dr. Kee-Hong Kim), 2 credits, 2014 Fall Semester: 1 lecture

ANSC 62000 – Protein and Amino Acids (Primary Instructor: Dr. Adeola), 3 credits.
Dr. Kim gave 3 guest lectures on topics that focused on muscle structures, composition, conversion muscle into meat, and meat proteins in 2017 and 2019 Fall Semester.

AGR 29000-H01 – Dean's Scholars Seminar (Primary Instructor: Dr. Marcos Fernandez)
Dr. Kim gave 1 guest lecture in 2017 and 2018 Fall Semester.

- **Graduate Teaching Assistant, Texas A&M University 2005 to 2008**
  - Teaching Meat Science laboratory (ANS 307) for 7 semesters: taught and supervised the 3 hour lab lecture and lab practices including animal slaughter process – pork, lamb, and beef, carcass evaluation, fabrication, ham and sausage manufacturing, sensory evaluation and meat safety.
  - Instructor staff for short courses: Beef 101, Beef 706, and Pork 101 (assisting animal slaughter process, grading, fabrication and meat processing).

- **Graduate Teaching Assistant, Kansas State University 2002 to 2004**
  - Teaching assistance for Meat Science (ASI 350) for 2 semesters: taught and supervised the lab lecture and practices including animal slaughter and fabrication, carcass evaluation, meat processing and sensory evaluation.
  - Teaching assistance for Meat Processing (ASI 351) for 1 semester: assisted and supervised the lab lecture and practices including animal slaughtering, processing, and general lab procedures of sanitation and HACCP.

MENTORING EXPERIENCE

a. Completed Graduate Students (Major and/or co-Advisor)

1) Danyi Ma (Purdue University, Animal Sciences, PhD, graduated August 2020) - Unlocking the role of apoptosis in proteolytic characteristics of postmortem muscles under different conditions.

2) Andrew Hirsch (M.S., Co-advisor Dr. Owen Jones, Food Science, graduated August 2018) - Functional properties of protein and chitin from commercial cricket flour as an effective emulsifier and as a partial protein replacement in a meat emulsion product.

3) Jordy Berger (Purdue University, Animal Sciences, MS, graduated December 2017) – Optimal dry-aging to improve quality attributes of grass-fed beef.

4) Traci Cramer (Purdue University, Animal Sciences, MS, graduated August 2017) – New insights into the effects of small heat shock proteins on callipyge lamb meat tenderness.

5) Moriah Penick (Purdue University, Animal Sciences, MS, graduated December 2015) – Callipyge genotypic effects on meat quality attributes and oxidation stability of ovine M. longissimus.

6) Danyi Ma (Purdue University, Animal Sciences, MS, graduated August 2016) – Metabolomics profiling to understand changes in oxidation stabilities of different bovine muscles with postmortem aging.

7) Carolijn van der Stok (Massey University, New Zealand – Food Science, MS., graduated May, 2015)

8) Satyavisal Pen (Auckland University of Technology, New Zealand – Food Science, MS., graduated May, 2012)

b. Current Graduate Students (Major Advisor)

1) Derico Setyabrata (PhD, expected graduation May 2021)

2) Jake Tuell (PhD, expected graduation May 2022)

3) Maraiah Nondorf (M.S., expected graduation December 2021)

4) Maha Abedelhaseib (Ph.D., Co-advisor Dr. Geanie Umberger, Technology, Leadership, and Innovation Department, Purdue Polytechnic Institute, expected graduation May 2023)

5) Allison Trigg (M.S., expected graduation May 2023)

c. Advisory Committee Member

Name	Degree	Major Professor	Department	Date of Degree
Yufei Guo	M.S.	Zuelly	ANSC	2021
Katharine Sharp	M.S.	Stewart	ANSC	2020

Alan Duttlinger	Ph.D.	Richert/Johnson	ANSC	2019
Julie Feldpausch	Ph.D.	Richert	ANSC	2019
Emily Ford	M.S.	Zuelly	ANSC	2019
Nicholas Lancaster	M.S.	Schoonmaker	ANSC	2018
Elisabeth Nguyen	M.S.	Liceaga	FDSC	2016
Josey Pukrop	M.S.	Schoonmaker	ANSC	2018
Carolijn van der Stok	M.S.	Thompson	FST[a]	2016
Satyavisal Pen	M.S.	Young	AS[b]	2012

[a] Massey University, New Zealand

[b] Auckland University of Technology, New Zealand

d. Undergraduate Research Training

1) Brandon Meyers (Jan. 2014 – December 2014) – Effects of stepwise dry/wet-aging and freezing rate on meat quality attributes of beef loins

2) Traci Cramer (June 2014 – May 2015) - Summer Undergraduate Research Fund (SURF) – New insights into the effects of small heat shock proteins on callipyge lamb meat tenderness

3) Danika Miller (September 2014 – May 2015) - Discovery Undergraduate Research Internship - Efficacy of soy hull fibers isolation as a dietary fiber source in meat emulsion

4) Derico Setyabrata (January 2015 – May 2016) - Discovery Undergraduate Research Internship – Anisotropic Imaging Analysis for meat tenderness

5) Nicholas Bland (August 2016 – Present) – ANSC49500, Developing novel dry-aging to improve beef quality and value

6) Yufan Chao (June 2016 – Present) – Purdue Summer Stay & Discovery Undergraduate Research Internship, The impact of heat stress in poultry

7) Osamudiamen Ogbeifun (June 2016 – Present) – Purdue SURF & Discovery Undergraduate Research Internship, Effects of probiotic feeding levels on meat quality attributes of chicken breast muscle under chronic heat stress

8) Jana Mudrock (August 2016 – Present) - Discovery Undergraduate Research Internship – Novel fast freezing/thawing and aging on meat tenderness and quality attribute

9) Chaewon Ahn (August 2016 – Present) - ANSC49500, Changes in heme/non-heme iron contents of beef muscle during postmortem aging and its impact on lipid oxidation stability.

10) Abigail Yarcusko (August 2016 – Present) - Discovery Undergraduate Research Internship – Elucidating the role of apoptosis in meat tenderization and oxidation stability

11) Krizia Lepiz-Conejo (January 2017 – Present) – ANSC49100, Effects of transportation/weaning stress followed by L-glutamine supplementation on meat quality and oxidative stability of porcine muscles

12) Yufan Chao (June 2016 – May 2018) – Can probiotics help combat heat stress in broiler chickens?

13) Jacob Tuell (May 2017 – May 2018) – The effects of ruminal bypass arginine and lysine supplementation on meat quality and oxidative stability of beef loins.

14) Erin Will (May 2018 – May 2019) – Effect of probiotics on biochemical and oxidative stability of muscles from laying hens.
15) Mariah Nondorf (May 2019 – December 2019) – Carcass and meat quality traits of market weight gilts exposed to gestational heat stress.

e. Recognition Received by Undergraduate Students

1) Traci Cramer, Summer Undergraduate Research Fellowship (SURF), May 2014.
2) Traci Cramer, **Third Place**, Undergraduate Research Poster Competition. Small heat shock protein 27 may be related to toughness in loins of callipyge lamb. The 68th RMC conference, Lincoln, Nebraska, 2015.
3) Brandon Meyers, IFT-Muscle Food Division, Student Travel Award, Chicago, IL, 2015
4) Danika Miller, Undergraduate Research Poster Competition. Certificate of Merit. Effects of soy hull fibers and freezing on quality attributes of beef patties. The 68th RMC conference, Lincoln, Nebraska, 2015
5) Danika Miller, Discovery Park Research Internship Scholarship, Spring 2015 – Fall 2015
6) Danika Miller, Office of Academic Programs, March 2016. Undergraduate Research Grant, College of Agriculture, Purdue University. Effect of probiotic supplementation and freezing rate on lipid and protein oxidations of chicken muscles. $500.
7) Derico Setyabrata, Summer Undergraduate Research Fellowship (SURF), May 2014.
8) Derico Setyabrata, Discovery Park Research Internship Scholarship, Spring 2015, Fall 2015
9) Derico Setyabrata, RMC 2015 Chairman Selected Best Oral Abstract, Meat tenderness assessment using anisotropy imaging analysis. The 68th RMC conference, Lincoln, Nebraska, 2015.
10) Derico Setyabrata, AMSA C. Boyd Ramsay RMC Scholar Award, 2016
11) Derico Setyabrata, Undergraduate Research Grant, College of Agriculture, Purdue University. Effect of Dry Aging on Color and Oxidation Stability of Beef Loins. $500.
12) Derico Setyabrata, **Third Place**, Purdue Undergraduate Research Poster Symposium, April, 2016.
13) Derico Setyabrata, **First Place**, Undergraduate Research Poster Competition. Effect of Dry Aging on Color and Oxidation Stability of Beef Loins. The 69th RMC conference, San Angelo, Texas, 2016.
14) Yufan Chao, **First Place**, Undergraduate Research Poster Competition. The 70th RMC conference, College Station, Texas, 2016.
15) Jacob Tuell, **TOP 10 Best Poster Presenters** - SURF Research Symposium, College of Agriculture - Honors Research Grant; **First Place**, Undergraduate Research Competition. The 71st Annual RMC conference, Kansas City, Missouri, 2018
16) Mariah Nondorf, **Second Place**, Molecular Agriculture Summer Institute (MASI) Summer Research Program and Poster Competition.
17) Anna Wagner, **Third Place**, Purdue Undergraduate Research Poster Competition, April, 2020. **Second Place**, Undergraduate Research Poster Competition. The 73rd Annual Reciprocal Meat Conference, Virtual Meeting

f. Recognition Received by Graduate Student/Postdoctoral Fellows

1) Jordy Berger, Purdue Diversity Graduate Fellowship. 2015
2) Hyun-Wook Kim, Second Place, KAFTA Research Paper Competition, Chicago, IL, 2015
3) Hyun-Wook Kim, First Place, KAFTA Research Paper Competition, Chicago, IL, 2016
4) Traci Cramer - LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2017
5) Danyi Ma - LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2017
6) Derico Setyabrata - LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2017
7) Derico Setyabrata – Featherston Early Graduate Career Award. Department of Animal Sciences, Purdue University. 2017
8) Derico Setyabrata - LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2018
9) Derico Setyabrata – **Third Place**, Graduate Research Competition. PhD Division. The 71st Annual RMC conference, Kansas City, Missouri, 2018
10) Jacob Tuell - LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2019
11) Derico Setyabrata – LOUJA Research Competition for Travel Award. Department of Animal Sciences, Purdue University. 2019
12) Danyi Ma – Bisland Fellowship Award. Department of Animal Sciences, Purdue University. 2019
13) Derico Setyabrata – IFT Member of The Year, Chicago, IL, 2019
14) Derico Setyabrata – AMSA Hunter International Travel Award, 2020
15) Derico Setyabrata – Featherston Outstanding PhD Graduate Award. Department of Animal Sciences, Purdue University. 2020
16) Jacob Tuell - Featherston Early Graduate Career Award. Department of Animal Sciences, Purdue University. 2020
17) Jacob Tuell - **Second Place**, Graduate Research Competition. PhD Division. The 73rd Annual RMC conference, Virtual Meeting, 2020
18) Mariah Nondorf - **First Place**, Graduate Research Competition. PhD Division. The 73rd Annual RMC conference, Virtual Meeting, 2020

g. Post-doctorates/Visiting Scholars at Purdue University

1) Hyun-Wook Kim (Post-doc Research Associate; November, 2014 – August, 2017)
2) Pierre Riviere (Visiting MS student from University of De La Reunion, France; April – August, 2014)
3) Camilla Trinderup (Visiting PhD student from Denmark Technical University; Jan – April, 2014)
4) Juhui Choe (Visiting Postdoc scholar from Konkuk University, Korea; March – December, 2014)
5) Biyun Shi (Visiting undergraduate student from Zhejiang University; July –September, 2015).

6) Jiaqi Hu (Visiting undergraduate student from Zhejiang University; July –August, 2016).
7) Ji-Han Kim (Visiting PhD student from Konkuk University, Korea; August 2016 – March, 2017)
8) Jin-Kyu Seo (Visiting MS student from Gyeongsang University, Korea; August 2016 – July, 2017)

- **Supervision and mentoring for full-time research staff, post-doc, MS student and visiting undergraduate students, AgResearch Ltd. 2010 to 2013**

  - Post-doctoral research fellow: Drs. Prabhu Balan and Ju-hui Choe 2012 to 2013
  - M.S. student: 1) Satyavisal Pen (Auckland University of Technology) 2011 to 2012
    2) Carolijn van der Stok (Massey University, NZ) 2013 to 2014

  - Visiting students:
    1) Catherine Black (University of Waikato, New Zealand) 2010 to 2011
    2) Sabina Bodker (University of Copenhagen, Denmark) 2011
    3) Luc Genevieve (University of Reunion Island, France) 2011
    4) Charlotte Liesse (University of Institute of Technology, France) 2012
    5) Rosanne Blijenburg (Hogeschool Inholland, The Netherlands) 2012
    6) Carolijn van der Stok (Hogeschool Inholland, The Netherlands) 2013

- **Undergraduate 'Science with Practice' Project mentor, Iowa State University 2009-2010**

  - Direct supervising and mentoring for selected undergraduate students with their research projects by providing them with essential laboratory techniques, scientific knowledge and professional conference presentation.

  - Betsy Jensen: Effects of lactate solution injection on color stability, lipid oxidation, and tenderness of beef packaged in high-oxygen modified atmosphere. Spring, 2009.

  - Tom Laning; Effects of lactate injection enhancement of early postmortem beef packaged in high-oxygen modified atmosphere on tenderness, color stability, and lipid oxidation. Spring, 2009.

  - Justine Hosch: Comparison of biochemical and physicochemical differences between beef inside- and outside- semimembranosus muscle. Fall, 2009.

  - Aaron Fritchen: Improving quality of beef round muscles packaged in high-oxygen modified atmosphere through early postmortem calcium lactate enhancement. Fall, 2009.

PRESS ARTICLES/MEDIA INTERVIEW

1) Dry-aging: Bridging the gap between art and science. American Association of Meat Processors. Jan. 2020.https://www.aamp.com/dry-aging-bridging-the-gap/

2) Developing smart-aging as a value adding strategy. Meatingplace, April 2019. http://www.meatingplace.com/Industry/TechnicalArticles/Details/84479

3) AMSA Exclusive: Meat tenderness assessment using tissue anisotropy imaging analysis.Meatingplace.April, 2016. http://www.meatingplace.com/Industry/TechnicalArticles/Details/60415

4) Building Better Beef, 2015, Purdue Agriculture Magazine (Winter 2015). https://ag.purdue.edu/agricultures/Pages/Winter2015/01-MuscularMysteries.aspx

5) Beef Magazine – Meat's color shouldn't be deal breaker. 2015.http://beefmagazine.com/beef-quality/meats-color-shouldnt-be-deal-breaker-video-explains

6) New insight into frozen meat, Meatingplace, August, 3rd, 2015; http://www.meatingplace.com/Industry/TechnicalArticles/Details/53624

7) Mapping high-oxygen MAP – its impacts on meat quality, Meatingplace Sept.28,2015; http://www.meatingplace.com/Industry/TechnicalArticles/Details/53632

8) American Meat Institute – Meat Mythcrusher Video Interview (June 17, 2014): Meat Color; http://www.meatmythcrushers.com/myths/myth-if-meat-turns-brown-that-means-it-is-spoiled.html

9) AMSA Exclusive: Practical applications to improve meat color. Meatingplace. Nov.17th2014. http://www.meatingplace.com/Industry/TechnicalArticles/Details/46449

10) Purdue sees meat science rebirth, The National Provisioner. 2014. http://www.provisioneronline.com/articles/100340-purdue-sees-meat-science-rebirth

11) AgBrief, New Zealand, V13(No.22) June 5-11, 2013. Better Frozen Meat Techniques Study.

12) Meat Export NZ, New Zealand. August 7th, 2013. Research aims to bridge the quality gap between chilled and frozen meat. http://meatexportnz.co.nz/2013/08/07/research-aims-to-bridge-the-quality-gap-between-chilled-and-frozen-meat

PROFESSIONAL SERVICE AND AFFILIATIONS

- Ad-hoc manuscript reviewing for the following journals
- *Food Chemistry, Journal of Animal Science, Journal of Agriculture and Food Science, Journal of Food Composition and Analysis, Meat Science, Asian-Australasian Journal of Animal Sciences, Animal Products Science, Poultry Science, LWT – Food Science and Technology, Journal of Food Science, Livestock, Journal of Food Science and Technology, Korean Journal for Food Science of Animal Resources.*
- American Meat Science Association Journal Committee, 2014 to Present
- Graduate Student Poster Competition Committee (Judge), American Meat Science Association
- Conference Session Moderator, The Use of Omics for Evaluating Meat Quality. IFT. Chicago, Illinois. June 2018
- Korean-American Scientists and Engineers Association (KSEA) – Young Generation Purdue

academic advisor and Indiana chapter committee, 2014 to Present
- IFT Muscle Food Division Senior Student Representative, 2007 to 2008
- IFT Muscle Food Division Graduate Student Paper Competition Chair, 2007
- IFT Muscle Food Division Junior Student Representative, 2006 to 2007

- Professional Member of the American Meat Science Association, 2003 to present
- Professional Member of the Institute of Food Technologists, 2003 to present
- Member of the American Society of Animal Science, 2008 to present
- Member of the Korean Food Scientists Association, 2003 to present
- Member of the Korean-American Scientists and Engineers Association, 2005 to present

ENGAGEMENT, SERVICE, AND PROFESSIONAL DEVELOPMENT ACITIVITIES

Dr. Kim does not have a formal Extension appointment, but has enthusiastically participated in service and extension activities when needed and appropriate. Dr. Kim is also actively involved with providing meat quality-related consultations to the industry, consumer groups, and various stakeholders at regional, national and global levels.

1. Department of Animal Sciences Activities

a. ANSC Muscle Biology Search committee, 2019 - Present
b. Animal Sciences Curriculum Review – Animal Product (Meat Science) team, 2018 -Present
c. Meat Lab Programs & Operations committee, 2016-Present
c. ANSC Seminar committee, 2014-2016
d. ANSC Meat Scientist Search committee, 2014
e. ANSC Undergraduate Program Director Search committee, 2015
f. ANSC Graduate committee, 2015-2018
g. ANSC Preview Day, Faculty panel, 2014-2016
h. IMPPA Meat convention, volunteer judge for processed meat product contest, March 2014/2015/2017
i. Animal Science Workshop for Youth, Taught sessions for Food Quality, June 11, 2014
j. ANSC Distinguished Alumni Award – faculty host for Dr. Max Judge (2014), Mr. Ross Jabaay (2015)
k. PCARET Meat Lab Tour, facilitator, November 2014
l. Novus International Group Tour, facilitator, July 2016
m. Purdue Summer Graduation, Departmental representative, August 2016
n. Celebration of Science – Maxwell Keynote Address – hosting Dr. Steven Lonergan (Iowa State University), April 2017
o. Developing a project – "**Student Outreach to Consumers"** funds supported by Dr. Max Judge, 2017–Present.

2. College of Agriculture Activities

a. Family Day, September 2015
b. Diversity Action Team in Agriculture committee, 2015-2017
c. Focus Group Panel Discussion (Improve professional development of graduate students), September 2017
d. College Awards Committee, 2017-2018

e. Dean's lunch meeting with Assistant Professor – Panel participation, 2019
f. Faculty Promotion and Tenure Guideline committee, 2021

3. University Activities

a. Korean-American Scientists and Engineers Association (KSEA) – Young Generation Purdue academic advisor and Indiana chapter committee, 2014-Present
b. World Bank ACE II Grant submission, 2015 – Eastern & Southern Africa Higher Education Centers of Excellence; Haramaya University in Ethiopia (lead institute); collaborator (PI: Dr. Gebisa Ejeta)
c. Purdue Korean Christian Fellowship – Faculty Advisor, 2015-Present
d. University Senator at Large – EDI committee, 2021-Present

4. National Activities

a. American Meat Institute – Meat Mythcrusher Video Interview (June 17, 2014): New Video Address Myths about Meat Color and Safety;

5. International Activities

a. ANZCO Food (New Zealand) meat quality (meat discoloration) issue consultation - Browning defect in frozen meat patties. Final report submitted to ANZCO Prepared Foods, New Zealand. February 2014

6. Stakeholders/Industry Engagements

a. Cargill – Caging systems and broiler quality (Honduras plant) (November 2015) – data analyses and industry report
b. National Swine Registry (NSR) – A brochure of American Best Genetics, NSR: Translation into Korean (April 2015)
c. TGI Fridays - Frozen meat quality assessment (March 2015) – frozen meat quality assessment
d. West Liberty Foods, Bolingbrook, IL – beef steaks discoloration issue consultation (November 2015)
e. Byron Center Meats, MI – Meat discoloration issue consultation (November 2015)
f. Tyson Food meat quality issue consultation (September 2014) – Beef discoloration consultation
g. Old Line Custom Meat Company, MD – Frozen ground beef quality/shelf-life consultation (March 2017)
h. Prime Valley Farms, LLC, IN – Wagyu beef quality assessment and consultation (May 2018)

7. Industry Service Report

1. Kim, Y.H.B.* Effect of caging system on broiler quality characteristics – a plant in Honduras. Report submitted to Cargill. November 2015.

2. Kim, Y.H.B.* Evaluation of Fresh vs. Frozen/Thawed beef sirloin steaks. Final report submitted to TGI Fridays. May 2015

3. Kim, Y.H.B.* Troubleshooting – fresh beef discoloration. Final report submitted to Tyson Foods, Inc. September 2014

4. Kim, Y.H.B.* Troubleshooting – browning defect in frozen meat patties. Final report submitted to ANZCO Prepared Foods, New Zealand. February 2014

8. Professional Development

a. Write Winning Grant Proposals Seminar, November 11, 2014 & March 3-4, 2015
b. Effective College Teaching Workshop, February 3-4, 2015
c. Scientists and Engineers Early-Career Development Workshop, Washington D.C. December 5-6, 2015. Korean-American Scientists and Engineers Association (KSEA).
d. Purdue College of Agriculture, Teaching PREP (Professors Reviewing Excellent Practices) Course, Spring semester 2017.
e. Leadership Skills for Engineering and Science Faculty, March, 2019, Purdue University.