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Education

University of Massachusetts, Amherst, Doctor of Philosophy in Food Science and Nutrition, 1985-1989

Washington State University, Master of Science in Food Science and Nutrition, 1983-1985

Pennsylvania State University, Bachelor of Science in Biology, 1978-1982

Professional Experience

September, 2008 to present
Department Head, Department of Food Science, University of Massachusetts, Amherst

September, 2008 to present
Director, Industry Strategic Research Alliance, University of Massachusetts, Amherst

September, 2000 to Present
Professor, Department of Food Science, University of Massachusetts, Amherst

September, 1993 to August, 2000
Associate Professor, Department of Food Science, University of Massachusetts, Amherst

July, 1993 to August, 1993
Associate Professor, Food Science Section, Department of Animal Sciences, University of Kentucky

October, 1988 to June, 1993
Assistant Professor, Food Science Section, Department of Animal Sciences, University of Kentucky

Honors and Awards

- Appointed to the National Academy of Science Sodium and Potassium DRI Committee
- Elected Vice President, American Oil Chemist Society (2018-2019)
- Euro Lipid Federation Lipid Technology Award (2018)
- Named to ISI Most Highly Cited Agricultural Scientists (2005 to present)
- Babcock-Hart Award, Institute of Food Technology, (2017)
- Fellow, American Oil Chemist Society (2016)
- Lipid Oxidation and Quality Edwin Frankel Best Paper Award, American Oil Chemist Society (2015)
- Fellow, Institute of Food Technology (2014)
- Fellow, Agriculture and Food Chemistry Division, American Chemical Society (2014)
- Lipid Oxidation and Quality Edwin Frankel Best Paper Award, American Oil Chemist Society (2014)
- Advancement of Application of Agricultural and Food Chemistry Award, Agriculture and Food Chemistry

Division of American Chemical Society (2012)
- Stephan S. Chang Award for Lipid Research, American Oil Chemist Society (2008)
- Chair and Member, Food Forum, Food and Nutrition Board, Institute of Medicine (2007-2014)
- Appointed to Food and Drug Administration Food Advisory Committee (2007-2010)
- Research and Development Award, Institute of Food Technologists (2006)
- Stephan S. Chang Award for Lipid and Flavor Science, Institute of Food Technologists (2006)
- Appointed to National Academy of Science, Institute of Medicine Committee on Nutrition Standards for Foods in Schools (2006).
- Fergus M. Clydesdale Endowed Chair from 2002-2007
- Outstanding Scientific Publication, Phospholipid Division, American Oil Chemist Society (2003)
- Outstanding Advising Award, College of Food and Natural Resources, University of Massachusetts (2002)
- Elected Secretary and Chair, Food Chemistry Division, Institute of Food Technologists (2002-2005)
- Guest Professor, Huazhong Agricultural University, China (2001-2004)
- Elected American Meat Science Association Board of Directors (2000-2002)
- Visiting Scientist, Linus Pauling Institute, Oregon State University (2000)
- Outstanding Teaching Award, College of Food and Natural Resources, University of Massachusetts (1998)
- Samuel Cate Prescott Award, Institute of Food Technologists (1997)
- Future Leader Award, International Life Science Institute (1996)
- Hokkaido Overseas Guest Researcher Fellowship, Hokkaido Food Processing Research Center, Japan (1995)
- Young Scientist Award, Agriculture and Food Chemistry Division, ACS (1994)
- Achievement Award for Young Scientists, American Meat Science Society (1993)
- Outstanding Paper Presentation Award, American Oil Chemist Society (1993)
- USDA National Needs Fellow, Department of Food Science, Univ. of Massachusetts, Amherst (1985-1988)

Plenary Lectures

- Euro Lipid Fed Annual Meeting, Belfast, UK (2018)
- Global Organization of EPA and DHA, Seattle, WA, (2018)
- AOCS Hot Topic, Orlando, FL (2017)
- Elsevier First Food Chemistry Conference, Amsterdam, Netherlands (2016)
- European Lipid Federation Lipid and Antioxidant Symposium, Porto, Portugal (2016)
- Lu Jia Xi Lectureship, Xiamen University, China (2016)
- 31st World Congress on Oils and Fats, Rosairo, Argentina (2015)
- Korean Society of Food Science and Technology, Busan (2015)
- 7th International Conference and Exhibition on Nutraceuticals and Functional Foods, Istanbul (2014).
- International Conference on Foods and Health, Toyo University, Japan (2013)
- 10th International Conference on Food Science and Technology Wuxi, China (2013)
- 10th EuroLipid Fed, Cracow, Poland (2012)
- 29th World Congress on Oleo Science, Sasebo, Japan (2012)
- EuroFoodChem, Gdnansk, Poland (2011)
- Australian section of the American Oil Chemist Society, Adelaide, Australia (2011)
- International Conference on Meat Science and Technology, Jeju Island, Korea (2010)
- 13th Latin American Congress on Fats and Oils, Rosairo, Argentina (2009)
- New Zealand Institute of Food Technologist (2009)
- Kansas State University Distinguished University Lecturer (2009)
- Malcolm Trout Visiting Scholar, Michigan State University (2003)
- Division Lectureship, Division of Muscle Foods, Institute of Food Technologists (1998)
- Institute of Food Technologists Distinguished Lecturer (2000-2002)

Research Interests and Experience

Refereed Journal Articles

1. Deyrieux, C.; Villeneuve, P.; Barea, B.; Decker, E.A.; Guiller, I.; Salaun, F.M.; Durand, E. Measurement of Peroxide Values in Oils by Triphenylphosphine/Triphenylphosphine Oxide (TPP/TPPO) Assay Coupled with FTIR-ATR Spectroscopy: Comparison with Iodometric Titration. European Journal of Lipid Science and Technology 2018, 120, 1800109.

2. Freund, M.A.; Chen, B.; Decker, E.A. The Inhibition of Advanced Glycation End Products by Carnosine and Other Natural Dipeptides to Reduce Diabetic and Age-Related Complications. Comprehensive Reviews in Food Science and Food Safety 2018, 17, 1367-1378.

3. Villeneuve, P.; Durand, E.; Decker, E.A. The Need for a New Step in the Study of Lipid Oxidation in Heterophasic Systems. J. Agric. Food Chem. 2018, 66, 8433-8434.

4. Zhu, Z.; Zhao, C.; Yi, J.; Cui, L.; Liu, N.; Cao, Y.; Decker, E.A. Ultrasound improving the physical stability of oil-in-water emulsions stabilized by almond proteins. J. Sci. Food Agric. 2018, 98, 4323-4330.

5. Durand, E.; Delavault, A.; Bourlieu, C.; Lecomte, J.; Barea, B.; Espinoza, M.C.F.; Decker, E.A.; Salaun, F.M.; Kergourlay, G.; Villeneuve, P. Eleostearic phospholipids as probes to evaluate antioxidants efficiency against liposomes oxidation. Chem. Phys. Lipids 2017, 209, 19-28.

6. Gumus, C.E.; Decker, E.A.; McClements, D.J. Impact of legume protein type and location on lipid oxidation in fish oil-in-water emulsions: Lentil, pea, and faba bean proteins. Food Res. Int. 2017, 100, 175-185.

7. Roman, M.J.; Decker, E.A.; Goddard, J.M. Fourier Transform Infrared Studies on the Dissociation Behavior of Metal-Chelating Polyelectrolyte Brushes (vol 6, pg 53843, 2014). Acs Applied Materials & Interfaces 2018, 10, 4341-4341.

8. Samdani, G.K.; McClements, D.J.; Decker, E.A. Impact of Phospholipids and Tocopherols on the Oxidative Stability of Soybean Oil-in-Water Emulsions. J. Agric. Food Chem. 2018, 66, 3939-3948.

9. Simon, J.E.; Decker, E.A.; Ferruzzi, M.G.; Giusti, M.M.; Mejia, C.D.; Goldschmidt, M.; Talcott, S.T. Establishing Standards on Colors from Natural Sources. J. Food Sci. 2017, 82, 2539-2553.

10. Toro-Uribe, S.; Lopez-Giraldo, L.J.; Decker, E.A. Relationship between the Physiochemical Properties of Cocoa Procyanidins and Their Ability to Inhibit Lipid Oxidation in Liposomes. J. Agric. Food Chem. 2018, 66, 4490-4502.

11. Weigel, F.; Weiss, J.; Decker, E.A.; McClements, D.J. Lutein-enriched emulsion-based delivery systems: Influence of emulsifiers and antioxidants on physical and chemical stability. Food Chem. 2018, 242, 395-403.

12. Wong, K.M.; Decker, E.A.; Autio, W.R.; Toong, K.; DiStefano, G.; Kinchla, A.J. Utilizing Mushrooms to Reduce Overall Sodium in Taco Filling Using Physical and Sensory Evaluation. J. Food Sci. 2017, 82, 2379-2386.

13. Zhu, Z.; Zhao, C.; Yi, J.; Liu, N.; Cao, Y.; Decker, E.A.; McClements, D.J. Impact of Interfacial Composition on Lipid and Protein Co-Oxidation in Oil-in-Water Emulsions Containing Mixed Emulisifers.

J. Agric. Food Chem. 2018, 66, 4458-4468.

14. Zhu, Z.; Zhu, W.; Yi, J.; Liu, N.; Cao, Y.; Lu, J.; Decker, E.A.; McClements, D.J. Effects of sonication on the physicochemical and functional properties of walnut protein isolate. Food Res. Int. 2018, 106, 853-861.

15. Chung, C.; Sher, A.; Rousset, P.; Decker, E.A.; McClements, D.J. Formulation of food emulsions using natural emulsifiers: Utilization of quillaja saponin and soy lecithin to fabricate liquid coffee whiteners. J. Food Eng. 2017, 209, 1-11.

16. Decker, E.A.; McClements, D.J.; Bourlieu-Lacanal, C.; Durand, E.; Figueroa-Espinoza, M.C.; Lecomte, J.; Villeneuve, P. Hurdles in Predicting Antioxidant Efficacy in Oil-in-water emulsions. Trends Food Sci. Technol. 2017, 67, 183-194.

17. Gumus, C.E.; Decker, E.A.; McClements, D.J. Gastrointestinal fate of emulsion-based omega-3 oil delivery systems stabilized by plant proteins: Lentil, pea, and faba bean proteins. J. Food Eng. 2017, 207, 90-98.

18. Gumus, C.E.; Decker, E.A.; McClements, D.J. Formation and Stability of omega-3 Oil Emulsion-Based Delivery Systems Using Plant Proteins as Emulsifiers: Lentil, Pea, and Faba Bean Proteins. Food Biophysics 2017, 12, 186-197.

19. Phonsatta, N.; Deetae, P.; Luangpituksa, P.; Grajeda-Iglesias, C.; Figueroa-Espinoza, M.C.; Le Comte, J.; Villeneuve, P.; Decker, E.A.; Visessanguan, W.; Panya, A. Comparison of Antioxidant Evaluation Assays for. Investigating Antioxidative Activity of Gallic Acid and Its Alkyl Esters in Different Food Matrices. J. Agric. Food Chem. 2017, 65, 7509-7518.

20. Johnson, D.R.; Gisder, J.; Lew, L.; Goddard, J.M.; Decker, E.A. Is oxygen reduction a viable antioxidant strategy for oil-in-water emulsions? European Journal of Lipid Science and Technology 2017, 119, 1600285.

21. Liang, L.; Chen, F.; Wang, X.; Jin, Q.; Decker, E.A.; McClements, D.J. Physical and Oxidative Stability of Flaxseed Oil-in-Water Emulsions Fabricated from Sunflower Lecithins: Impact of Blending Lecithins with Different Phospholipid Profiles. J. Agric. Food Chem. 2017, 65, 4755-4765.

22. Song, M.; Lopez-Pena, C.L.; McClements, D.J.; Decker, E.A.; Xiao, H. Safety evaluation and lipid-lowering effects of food-grade biopolymer complexes (epsilon-polylysine-pectin) in mice fed a high-fat diet. Food & Function 2017, 8, 1822-1829.

23. Surh, J.; Decker, E.A.; McClements, D.J. Utilisation of spontaneous emulsification to fabricate lutein-loaded nanoemulsion-based delivery systems: factors influencing particle size and colour. International Journal of Food Science and Technology 2017, 52, 1408-1416.

24. Vieira, S.A.; Zhang, G.; Decker, E.A. Biological Implications of Lipid Oxidation Products. Journal of the American Oil Chemists Society 2017, 94, 339-351.

25. Walker, R.M.; Gumus, C.E.; Decker, E.A.; McClements, D.J. Improvements in the formation and stability of fish oil-in-water nanoemulsions using carrier oils: MCT, thyme oil, & lemon oil. J. Food Eng. 2017, 211, 60-68.

26. Cui, L.; Lahti, P.M.; Decker, E.A. Evaluating Electron Paramagnetic Resonance (EPR) to Measure Lipid Oxidation Lag Phase for Shelf-Life Determination of Oils. Journal of the American Oil Chemists Society 2017, 94, 89-97.

27. Chen, B.; Rao, J.; Ding, Y.; McClements, D.J.; Decker, E.A. Lipid oxidation in base algae oil and water-in-

algae oil emulsion: Impact of natural antioxidants and emulsifiers. Food Res. Int. 2016, 85, 162-169.

28. Chen, F.; Liang, L.; Zhang, Z.; Deng, Z.; Decker, E.A.; McClements, D.J. Inhibition of lipid oxidation in nanoemulsions and filled microgels fortified with omega-3 fatty acids using casein as a natural antioxidant. Food Hydrocoll. 2017, 63, 240-248.

29. Hinkley, T.; Pandya, J.; Kinchla, A.J.; Decker, E.A. Determination of Quantitative Sodium Mass Transfer Coefficient During Osmotic Processing of Potatoes. J. Food Process. Preserv. 2016, 40, 963-968.

30. Kittipongpittaya, K.; Panya, A.; Phonsatta, N.; Decker, E.A. Effects of Environmental pH on Antioxidant Interactions between Rosmarinic Acid and alpha-Tocopherol in Oil-in-Water (O/W) Emulsions. J. Agric. Food Chem. 2016, 64, 6575-6583.

31. Lin, Z.; Roman, M.J.; Decker, E.A.; Goddard, J.M. Synthesis of Iminodiacetate Functionalized Polypropylene Films and Their Efficacy as Antioxidant Active-Packaging Materials. J. Agric. Food Chem. 2016, 64, 4606-4617.

32. Liu, F.; Zhu, Z.; Ma, C.; Luo, X.; Bai, L.; Decker, E.A.; Gao, Y.; McClements, D.J. Fabrication of Concentrated Fish Oil Emulsions Using Dual-Channel Microfluidization: Impact of Droplet Concentration on Physical Properties and Lipid Oxidation. J. Agric. Food Chem. 2016, 64, 9532-9541.

33. Liu, L.; Gao, Y.; McClements, D.J.; Decker, E.A. Role of continuous phase protein, (-)-epigallocatechin-3-gallate and carrier oil on beta-carotene degradation in oil-in-water emulsions. Food Chem. 2016, 210, 242-248.

34. Roman, M.J.; Decker, E.A.; Goddard, J.M. Retaining Oxidative Stability of Emulsified Foods by Novel Nonmigratory Polyphenol Coated Active Packaging. J. Agric. Food Chem. 2016, 64, 5574-5582.

35. Uluata, S.; McClements, D.J.; Decker, E.A. Riboflavin-induced oxidation in fish oil-in-water emulsions: Impact of particle size and optical transparency. Food Chem. 2016, 213, 457-461.

36. Wu, Q.; Uluata, S.; Cui, L.; Wang, C.; Li, D.; Mcclements, J.; Decker, E.A. Physical and oxidation stability of self-emulsifying krill oil-in-water emulsions. Food & Function 2016, 7, 3590-3598.

37. Sanidad, K.Z.; Sukarntoh, E.; Wang, W.; Du, Z.; Florio, E.; He, L.; Xiao, H.; Decker, E.A.; Zhang, G. Oxidative Conversion Mediates Antiproliferative Effects of tert-Butylhydroquinone: Structure and Activity Relationship Study. J. Agric. Food Chem. 2016, 64, 3743-3748.

38. Homma, R.; Johnson, D.R.; McClements, D.J.; Decker, E.A. Influence of iron solubility and charged surface-active compounds on lipid oxidation in fatty acid ethyl esters containing association colloids. Food Chem. 2016, 199, 862-869.

39. Lin, Z.; Decker, E.A.; Goddard, J.M. Preparation of metal chelating active packaging materials by laminated photografting. Journal of Coatings Technology and Research 2016, 13, 395-404.

40. Ogiwara, Y.; Roman, M.J.; Decker, E.A.; Goddard, J.M. Iron chelating active packaging: Influence of competing ions and pH value on effectiveness of soluble and immobilized hydroxamate chelators. Food Chem. 2016, 196, 842-847.

41. Cui, L.; Cho, H.T.; McClements, D.J.; Decker, E.A.; Park, Y. Effects of salts on oxidative stability of lipids in Tween-20 stabilized oil-in-water emulsions. Food Chem. 2016, 197, 1130-1135.

42. Cui, L.; Decker, E.A. Phospholipids in foods: prooxidants or antioxidants? J. Sci. Food Agric. 2016, 96, 18-

31.

43. Homma, R.; Johnson, D.R.; McClements, D.J.; Decker, E.A. Influence of iron solubility and charged surface-active compounds on lipid oxidation in fatty acid ethyl esters containing association colloids. Food Chem. 2016, 199, 862-869.

44. Kittipongpittaya, K.; Panya, A.; Decker, E.A. Role of Water and Selected Minor Components on Association Colloid Formation and Lipid Oxidation in Bulk Oil. Journal of the American Oil Chemists Society 2016, 93, 83-91.

45. Ogiwara, Y.; Roman, M.J.; Decker, E.A.; Goddard, J.M. Iron chelating active packaging: Influence of competing ions and pH value on effectiveness of soluble and immobilized hydroxamate chelators. Food Chem. 2016, 196, 842-847.

46. Uluata, S.; Decker, E.A.; McClements, D.J. Optimization of Nanoemulsion Fabrication Using Microfluidization: Role of Surfactant Concentration on Formation and Stability. Food Biophysics 2016, 11, 52-59.

47. Zhang, R.; Zhang, Z.; Zou, L.; Xiao, H.; Zhang, G.; Decker, E.A.; McClements, D.J. Impact of Lipid Content on the Ability of Excipient Emulsions to Increase Carotenoid Bioaccessibility from Natural Sources (Raw and Cooked Carrots). Food Biophysics 2016, 11, 71-80.

48. Zhang, R.; Zhang, Z.; Zou, L.; Xiao, H.; Zhang, G.; Decker, E.A.; McClements, D.J. Enhancement of carotenoid bioaccessibility from carrots using excipient emulsions: influence of particle size of digestible lipid droplets. Food & Function 2016, 7, 93-103.

49. Lopez-Pena, C.L.; Zheng, B.; Sela, D.A.; Decker, E.A.; Xiao, H.; McClements, D.J. Impact of epsilon-polylysine and pectin on the potential gastrointestinal fate of emulsified lipids: In vitro mouth, stomach and small intestine model. Food Chem. 2016, 192, 857-864.

50. Barden, L.; Barouh, N.; Villeneuve, P.; Decker, E. Impact of Hydrophobicity on Antioxidant Efficacy in Low-Moisture Food. J. Agric. Food Chem. 2015, 63, 5821-5827.

51. Barden, L.; Vollmer, D.; Johnson, D.; Decker, E. Impact of Iron, Chelators, and Free Fatty Acids on Lipid Oxidation in Low-Moisture Crackers. J. Agric. Food Chem. 2015, 63, 1812-1818.

52. Homma, R.; Suzuki, K.; Cui, L.; McClements, D.J.; Decker, E.A. Impact of Association Colloids on Lipid Oxidation in Triacylglycerols and Fatty Acid Ethyl Esters. J. Agric. Food Chem. 2015, 63, 10161-10169.

53. Zhang, R.; Zhang, Z.; Zou, L.; Xiao, H.; Zhang, G.; Decker, E.A.; McClements, D.J. Enhancing Nutraceutical Bioavailability from Raw and Cooked Vegetables Using Excipient Emulsions: Influence of Lipid Type on Carotenoid Bioaccessibility from Carrots. J. Agric. Food Chem. 2015, 63, 10508-10517.

54. Roman, M.J.; Decker, E.A.; Goddard, J.M. Performance of Nonmigratory Iron Chelating Active Packaging Materials in Viscous Model Food Systems. J. Food Sci. 2015, 80, E1965-E1973.

55. Salvia-Trujillo, L.; Decker, E.A.; McClements, D.J. Influence of an anionic polysaccharide on the physical and oxidative stability of omega-3 nanoemulsions: Antioxidant effects of alginate. Food Hydrocoll. 2016, 52, 690-698.

56. Uluata, S.; McClements, D.J.; Decker, E.A. Physical Stability, Autoxidation, and Photosensitized Oxidation of omega-3 Oils in Nanoennulsions Prepared with Natural and Synthetic Surfactants. J. Agric. Food Chem. 2015, 63, 9333-9340.

57. Vieira, S.A.; McClements, D.J.; Decker E.A. Challenges of utilizing healthy fats in foods.
    a. Adv Nutr. 2015 May 15;6(3):309S-17S.

58. Chen, J.; Zheng, J.; Decker, E.A.; McClements, D.J.; Xiao, H. Improving nutraceutical bioavailability using mixed colloidal delivery systems: lipid nanoparticles increase tangeretin bioaccessibility and absorption from tangeretin-loaded zein nanoparticles. *Rsc Advances* **2015,** *5,* 73892-73900.

59. Cui, L.; McClements, D.J.; Decker, E.A. Impact of Phosphatidylethanolamine on the Antioxidant Activity of alpha-Tocopherol and Trolox in Bulk Oil. *J. Agric. Food Chem.* **2015,** *63,* 3288-3294.

60. Decker, E.A.; Storey, M.L. Executive Summary. *Advances in Nutrition* **2015,** *6,* 288S-292S.

61. Johnson, D.R.; Decker, E.A. The Role of Oxygen in Lipid Oxidation Reactions: A Review. *Annual Review of Food Science and Technology, Vol 6* **2015,** *6,* 171-190.

62. Johnson, D.R.; Tian, F.; Rornan, M.J.; Decker, E.A.; Goddard, J.M. Development of Iron-Chelating Poly(ethylene terephthalate) Packaging for Inhibiting Lipid Oxidation in Oil-in-Water Emulsions. *J. Agric. Food Chem.* **2015,** *63,* 5055-5060.

63. Lopez-Pena, C.L.; Song, M.; Xiao, H.; Decker, E.A.; McClements, D.J. Potential impact of biopolymers (epsilon-polylysine and/or pectin) on gastrointestinal fate of foods: In vitro study. *Food Res. Int.* **2015,** *76,* 769-776.

64. Panya, A.; Temthawee, W.; Phonsatta, N.; Charoensuk, D.; Deetae, P.; Visessanguan, W.; Decker, E.A. Apolar Radical Initiated Conjugated Autoxidizable Triene (ApoCAT) Assay: Effects of Oxidant Locations on Antioxidant Capacities and Interactions. *J. Agric. Food Chem.* **2015,** *63,* 7546-7555.

65. Qiu, C.; Zhao, M.; Decker, E.A.; McClements, D.J. Influence of anionic dietary fibers (xanthan gum and pectin) on oxidative stability and lipid digestibility of wheat protein-stabilized fish oil-in-water emulsion. *Food Res. Int.* **2015,** *74,* 131-139.

66. Salcedo-Sandoval, L.; Cofrades, S.; Ruiz-Capillas, C.; Matalanis, A.; McClements, D.J.; Decker, E.A.; Jimenez-Colmenero, F. Oxidative stability of n-3 fatty acids encapsulated in filled hydrogel particles and of pork meat systems containing them. *Food Chem.* **2015,** *184,* 207-213.

67. Sung, M.; Xiao, H.; Decker, E.A.; McClements, D.J. Fabrication, characterization and properties of filled hydrogel particles formed by the emulsion-template method. *J. Food Eng.* **2015,** *155,* 16-21.

68. Thanonkaew, A.; Wongyai, S.; Decker, E.A.; McClements, D.J. Formation, antioxidant property and oxidative stability of cold pressed rice bran oil emulsion. *Journal of Food Science and Technology-Mysore* **2015,** *52,* 6520-6528.

69. Vieira, S.A.; McClements, D.J.; Decker, E.A. Challenges of Utilizing Healthy Fats in Foods. *Advances in Nutrition* **2015,** *6,* 309S-317S.

70. Walker, R.M.; Decker, E.A.; McClements, D.J. Physical and oxidative stability of fish oil nanoemulsions produced by spontaneous emulsification: Effect of surfactant concentration and particle size. *J. Food Eng.* **2015,** *164,* 10-20.

71. Yang, Y.; Decker, E.A.; Xiao, H.; McClements, D.J. Enhancing vitamin E bioaccessibility: factors impacting solubilization and hydrolysis of alpha-tocopherol acetate encapsulated in emulsion-based delivery systems. *Food & Function* **2015,** *6,* 84-97.

72. Yi, J.; Dong, W.; Zhu, Z.; Liu, N.; Ding, Y.; McClements, D.J.; Decker, E.A. Surfactant Concentration, Antioxidants, and Chelators Influencing Oxidative Stability of Water-in-Walnut Oil Emulsions. *Journal of the American Oil Chemists Society* **2015,** *92,* 1093-1102.

73. Zhang, R.; Zhang, Z.; Zhang, H.; Decker, E.A.; McClements, D.J. Influence of lipid type on gastrointestinal fate of oil-in-water emulsions: In vitro digestion study. *Food Res. Int.* **2015,** *75,* 71-78.

74. Zhang, Z.; Zhang, R.; Tong, Q.; Decker, E.A.; McClements, D.J. Food-grade filled hydrogels for oral delivery of lipophilic active ingredients: Temperature-triggered release microgels. *Food Res. Int.* **2015,** *69,* 274-280.

75. Qiu, C.; Zhao, M.; Decker, E.A.; McClements, D.J. Influence of protein type on oxidation and digestibility of fish oil-in-water emulsions: Gliadin, caseinate, and whey protein. Food Chem. 2015, 175, 249-257.

76. Uluata, S.; McClements, D.J.; Decker, E.A. How the Multiple Antioxidant Properties of Ascorbic Acid Affect Lipid Oxidation in Oil-in-Water Emulsions. J. Agric. Food Chem. 2015, 63, 1819-1824.

77. Walker, R.; Decker, E.A.; McClements, D.J. Development of food-grade nanoemulsions and emulsions for delivery of omega-3 fatty acids: opportunities and obstacles in the food industry. Food & Function 2015, 6, 42-55.

78. Zhang, R.; Zhang, Z.; Zhang, H.; Decker, E.A.; McClements, D.J. Influence of emulsifier type on gastrointestinal fate of oil-in-water emulsions containing anionic dietary fiber (pectin). Food Hydrocoll. 2015, 45, 175-185.

79. Zhang, Z.; Zhang, R.; Decker, E.A.; McClements, D.J. Development of food-grade filled hydrogels for oral delivery of lipophilic active ingredients: pH-triggered release. Food Hydrocoll. 2015, 44, 345-352.

80. Wiriyaphan, C.; Xiao, H.; Decker, E.A.; Yongsawatdigul, J. Chemical and cellular antioxidative properties of threadfin bream (Nemipterus spp.) surimi byproduct hydrolysates fractionated by ultrafiltration. Food Chem. 2015, 167, 7-15.

81. Tian, F.; Roman, M.J.; Decker, E.A.; Goddard, J.M. Biomimetic Design of Chelating Interfaces. J Appl Polym Sci 2015, 132, 41231.

82. Cui, L.; Kittipongpittaya, K.; McClements, D.J.; Decker, E.A. Impact of Phosphoethanolamine Reverse Micelles on Lipid Oxidation in Bulk Oils. Journal of the American Oil Chemists Society 2014, 91, 1931-1937.

83. Kiralan, S.S.; Dogu-Baykut, E.; Kittipongpittaya, K.; McClements, D.J.; Decker, E.A. Increased Antioxidant Efficacy of Tocopherols by Surfactant Solubilization in Oil-in-Water Emulsions. J. Agric. Food Chem. 2014, 62, 10561-10566.

84. Kittipongpittaya, K.; Panya, A.; Cui, L.; McClements, D.J.; Decker, E.A. Association Colloids Formed by Multiple Surface Active Minor Components and Their Effect on Lipid Oxidation in Bulk Oil. Journal of the American Oil Chemists Society 2014, 91, 1955-1965.

85. Roman, M.J.; Decker, E.A.; Goddard, J.M. Metal-Chelating Active Packaging Film Enhances Lysozyme Inhibition of Listeria monocytogenes. J. Food Prot. 2014, 77, 1153-1160.

86. Zhang, Z.; Decker, E.A.; McClements, D.J. Encapsulation, protection, and release of polyunsaturated lipids using biopolymer-based hydrogel particles. Food Res. Int. 2014, 64, 520-526.

87. Laguerre, M.; Bayrasy, C.; Panya, A.; Weiss, J.; McClements, D.J.; Lecomte, J.; Decker, E.A.; Villeneuve, P. What Makes Good Antioxidants in Lipid-Based Systems? The Next Theories Beyond the Polar Paradox. Crit. Rev. Food Sci. Nutr. 2014, 55, 183-201.

88. Chen, B.; McClements, D.J.; Decker, E.A. Impact of diacylglycerol and monoacylglycerol on the physical and chemical properties of stripped soybean oil. Food Chem. 2014, 142, 365-372.

89. Dogu-Baykut, E.; Gunes, G.; Decker, E.A. Impact of shortwave ultraviolet (UV-C) radiation on the antioxidant activity of thyme (Thymus vulgaris L.). Food Chem. 2014, 157, 167-173.

90. Kittipongpittaya, K.; Panya, A.; McClements, D.J.; Decker, E.A. Impact of Free Fatty Acids and Phospholipids on Reverse Micelles Formation and Lipid Oxidation in Bulk Oil. Journal of the American Oil Chemists Society 2014, 91, 453-462.

91. McClements, D.J.; Decker, E.A.; Choi, S.J. Impact of Environmental Stresses on Orange Oil-in-Water Emulsions Stabilized by Sucrose Monopalmitate and Lysolecithin. J. Agric. Food Chem. 2014, 62, 3257-3261.

92. Roman, M.J.; Decker, E.A.; Goddard, J.M. Fourier Transform Infrared Studies on the Dissociation Behavior of Metal-Chelating Polyelectrolyte Brushes. Acs Applied Materials & Interfaces 2014, 6, 5383-5387.

93. Roman, M.J.; Tian, F.; Decker, E.A.; Goddard, J.M. Iron Chelating Polypropylene Films: Manipulating Photoinitiated Graft Polymerization to Tailor Chelating Activity. J Appl Polym Sci 2014, 131, 39948.

94. Tian, F.; Decker, E.A.; Goddard, J.M. Controlling Lipid Oxidation via a Biomimetic Iron Chelating Active Packaging Material. J. Agric. Food Chem. 2013, 61, 12397-12404.

95. Tian, F.; Decker, E.A.; McClements, D.J.; Goddard, J.M. Influence of non-migratory metal-chelating active packaging film on food quality: Impact on physical and chemical stability of emulsions. Food Chem. 2014, 151, 257-265.

96. Xu, D.; Yuan, F.; Gao, Y.; Panya, A.; McClements, D.J.; Decker, E.A. Influence of whey protein-beet pectin conjugate on the properties and digestibility of beta-carotene emulsion during in vitro digestion. Food Chem. 2014, 156, 374-379.

97. Yi, J.; Zhu, Z.; McClements, D.J.; Decker, E.A. Influence of Aqueous Phase Emulsifiers on Lipid Oxidation in Water-in-Walnut Oil Emulsions. J. Agric. Food Chem. 2014, 62, 2104-2111.

98. Decker, E.A.; Rose, D.J.; Stewart, D. Processing of oats and the impact of processing operations on nutrition and health benefits. Br. J. Nutr. 2014, suppl 2:S58-64.

99. Chung, C.; Degner, B.; Decker, E.A.; McClements, D.J. Oil-filled hydrogel particles for reduced-fat food applications: Fabrication, characterization, and properties. Innovative Food Science & Emerging Technologies 2013, 20, 324-334.

100. Rao, J.; Decker, E.A.; Xiao, H.; McClements, D.J. Nutraceutical nanoemulsions: influence of carrier oil composition (digestible versus indigestible oil) on -carotene bioavailability. J. Sci. Food Agric. 2013, 93, 3175-3183.

101. Xu, D.; Wang, X.; Jiang, J.; Yuan, F.; Decker, E.A.; Gao, Y. Influence of pH, EDTA, alpha-tocopherol, and WPI oxidation on the degradation of beta-carotene in WPI-stabilized oil-in-water emulsions. Lwt-Food Science and Technology 2013, 54, 236-241.

102. Yi, J.; Zhu, Z.; Dong, W.; McClements, D.J.; Decker, E.A. Influence of free fatty acids on oxidative stability in water-in-walnut oil emulsions. European Journal of Lipid Science and Technology 2013, 115, 1013-1020

103. Xu, D.; Yuan, F.; Gao, Y.; McClements, D.J.; Decker, E.A. Influence of pH, metal chelator, free radical scavenger and interfacial characteristics on the oxidative stability of beta-carotene in conjugated whey protein-pectin stabilised emulsion. Food Chem. 2013, 139, 1098-1104.

104. Decker, E.A.; Ferruzzi, M.G. Innovations in food chemistry and processing to enhance the nutrient profile of the white potato in all forms. Adv. Nutr. 2013, 4:345S-350S.

105. Chen, B.; McClements, D.J.; Decker, E.A. Design of foods with bioactive lipids for improved health. Annu. Rev. Food Sci. Technol. **2013**, 4:35-56.

106. Dong, S.; Panya, A.; Zeng, M.; Chen, B.; McClements, D.J.; Decker, E.A. Characteristics and antioxidant activity of hydrolyzed beta-lactoglobulin-glucose Maillard reaction products Food Res. Int. **2013**, 51, 992-992.

107. Qian, C.; Decker, E.A.; Xiao, H.; McClements, D.J. Impact of lipid nanoparticle physical state on particle aggregation and beta-carotene degradation: Potential limitations of solid lipid nanoparticles. Food Res. Int. **2013**, 52, 342-349.

108. Tian, F.; Decker, E.A.; Goddard, J.M. Controlling lipid oxidation of food by active packaging technologies. Food & Function **2013**, 4, 669-680.

109. Xu, D.; Yuan, F.; Gao, Y.; McClements, D.J.; Decker, E.A. Influence of pH, metal chelator, free radical scavenger and interfacial characteristics on the oxidative stability of beta-carotene in conjugated whey protein-pectin stabilised emulsion. Food Chem. **2013**, 139, 1098-1104.

110. Laguerre, M.; Bayrasy, C.; Lecomte, J.; Chabi, B.; Decker, E.A.; Wrutniak-Cabello, C.; Cabello, G.; Villeneuve, P. How to boost antioxidants by lipophilization? Biochimie **2013**, 95, 20-26.

111. Yuan, F.; Gao, Y.; Decker, E.A.; McClements, D.J. Modulation of physicochemical properties of emulsified lipids by chitosan addition. J. Food Eng. **2013**, 114, 1-7.

112. Kittipongpittaya, K.; Chen, B.; Panya, A.; McClements, D.J.; Decker, E.A. Prooxidant Activity of Polar Lipid Oxidation Products in Bulk Oil and Oil-in-Water Emulsion. Journal of the American Oil Chemists Society **2012**, 89, 2187-2194.

113. Tian, F.; Decker, E.A.; Goddard, J.M. Control of Lipid Oxidation by Nonmigratory Active Packaging Films Prepared by Photoinitiated Graft Polymerization. J. Agric. Food Chem. **2012**, 60, 7710-7718.

114. Panya, A.; Kittipongpittaya, K.; Laguerre, M.; Bayrasy, C.; Lecomte, J.; Villeneuve, P.; McClements, D.J.; Decker, E.A. Interactions between alpha-Tocopherol and Rosmarinic Acid and Its Alkyl Esters in Emulsions: Synergistic, Additive, or Antagonistic Effect? J. Agric. Food Chem. **2012**, 60, 10320-10330.

115. Qian, C.; Decker, E.A.; Xiao, H.; McClements, D.J. Nanoemulsion delivery systems: Influence of carrier oil on beta-carotene bioaccessibility. Food Chem. **2012**, 135, 1440-1447.

116. Tokle, T.; Decker, E.A.; McClements, D.J. Utilization of interfacial engineering to produce novel emulsion properties: Pre-mixed lactoferrin/beta-lactoglobulin protein emulsifiers. Food Res. Int. **2012**, 49, 46-52.

117. Waraho, T.; Cardenia, V.; Nishino, Y.; Seneviratne, K.N.; Rodriguez-Estrada, M.T.; McClements, D.J.; Decker, E.A. Antioxidant effects of mono- and diacylglycerols in non-stripped and stripped soybean oil-in-water emulsions. Food Res. Int. **2012**, 48, 353-358.

118. Chen, B.; Panya, A.; McClements, D.J.; Decker, E.A. New insights into the role of iron in the promotion of lipid oxidation in bulk oils containing reverse micelles. *J. Agric. Food Chem.* **2012**, 60, 3524-3532.

119. Qian, C.; Decker, E.A.; Xiao, H.; McClements, D.J. Inhibition of beta-carotene degradation in oil-in-water nanoemulsions: Influence of oil-soluble and water-soluble antioxidants. *Food Chem.* **2012**, 135, 1036-1043.

120. Kim, T.S.; Decker, E.A.; Lee, J. Effects of chlorophyll photosensitization on the oxidative stability of oil-in-water emulsions. *Food Chem.* **2012**, 133, 1449-1455.

121. Thanonkaew, A.; Wongyai, S.; McClements, D.J.; Decker, E.A. Effect of stabilization of rice bran by domestic heating on mechanical extraction yield, quality and antioxidant properties of cold-pressed rice bran oil (*Oryza saltiva L.*). *LWT-Food Sci. Technol.* **2012**, 48, 231-236.

122. Tian, F.; Decker, E.A.; Goddard, J.M. Development of an Iron Chelating Polyethylene Film for Active Packaging Applications. *J. Agric. Food Chem.* **2012,** *60,* 2046-2052.

123. Panya, A.; Laguerre, M.; Bayrasy, C.; Lecomte, J.; Villeneuve, P.; McClements, D.J.; Decker, E.A. An Investigation of the Versatile Antioxidant Mechanisms of Action of Rosmarinate Alkyl Esters in Oil-in-Water Emulsions. *J. Agric. Food Chem.* **2012,** *60,* 2692-2700.

124. Decker, E.A.; Akoh, C.C.; Wilkes, R.S. Incorporation of (n-3) Fatty Acids in Foods: Challenges and Opportunities. *J. Nutr.* **2012,** *142,* 610S-613S.

125. Chen, B.; McClements, D.J.; Gray, D.A.; Decker, E.A. Physical and oxidative stability of pre-emulsified oil bodies extracted from soybeans. *Food Chem.* **2012,** *132,* 1514-1520.

126. Qian, C.; Decker, E.A.; Xiao, H.; McClements, D.J. Physical and chemical stability of beta-carotene-enriched nanoemulsions: Influence of pH, ionic strength, temperature, and emulsifier type. *Food Chem.* **2012,** *132,* 1221-1229.

127. Matalanis, A.; Decker, E.A.; McClements, D.J. Inhibition of lipid oxidation by encapsulation of emulsion droplets within hydrogel microspheres. *Food Chem.* **2012,** *132,* 766-772.

128. Kim, T.S.; Decker, E.A.; Lee, J. Antioxidant capacities of alpha-tocopherol, trolox, ascorbic acid, and ascorbyl palmitate in riboflavin photosensitized oil-in-water emulsions. *Food Chem.* **2012,** *133,* 68-75.

129. McClements, D.J.; Henson, L.; Popplewell, L.M.; Decker, E.A.; Choi, S.J. Inhibition of Ostwald Ripening in Model Beverage Emulsions by Addition of Poorly Water Soluble Triglyceride Oils. *J. Food Sci.* **2012,** *77,* C33-C38.

130. Tokle, T.; Lesmes, U.; Decker, E.A.; McClements, D.J. Impact of dietary fiber coatings on behavior of protein-stabilized lipid droplets under simulated gastrointestinal conditions. *Food & Function* **2012,** *3,* 58-66.

131. Charoen, R.; Jangchud, A.; Jangchud, K.; Harnsilawat, T.; Decker, E.A.; McClements, D.J. Influence of interfacial composition on oxidative stability of oil-in-water emulsions stabilized by biopolymer emulsifiers. *Food Chem.* **2012,** *131,* 1340-1346.

132. Dong, S.; Wei, B.; Chen, B.; Mcclements, D.J.; Decker, E.A. Chemical and Antioxidant Properties of Casein Peptide and Its Glucose Maillard Reaction Products in Fish Oil-in-Water Emulsions. *J. Agric. Food Chem.* **2011,** *59,* 13311-13317.

133. Waraho, T.; McClements, D.J. and Decker, E.A. Impact of free fatty acid concentrations and structure on lipid oxidation in oil-in-water emulsions. Food Chem. **2011**, 129:854-859.

134. Katz, D.L.; Ayoob, K.T.; Decker, E.A.; Frank, G.C.; Jenkins, D.A.; Reeves, R.S.; Charmel, P. The ONQI Is Not a Black Box. *Am. J. Prev. Med.* **2011,** *41,* E15-E16.

135. Laguerre, M.; Chen, B.; Lecomte, J.; Villeneuve, P.; McClements, D.J.; Decker, E.A. Antioxidant Properties of Chlorogenic Acid and Its Alkyl Esters in Stripped Corn Oil in Combination with Phospholipids and/or Water. *J. Agric. Food Chem.* **2011,** *59,* 10361-10366.

136. Nutakul, W.; Sobers, H.S.; Qiu, P.; Dong, P.; Decker, E.A.; McClements, D.J.; Xiao, H. Inhibitory Effects of Resveratrol and Pterostilbene on Human Colon Cancer Cells: A Side-by-Side Comparison. *J. Agric. Food Chem.* **2011,** *59,* 10964-10970.

137. Zajdenwerg, C.; Branco, G.F.; Alamed, J.; Decker, E.A.; Castro, I.A. Correlation between sensory and chemical markers in the evaluation of Brazil nut oxidative shelf-life. *European Food Research and Technology* **2011,** *233,* 109-116.

138. Choi, S.J.; Decker, E.A.; Henson, L.; Popplewell, L.M.; Xiao, H.; McClements, D.J. Formulation and properties of model beverage emulsions stabilized by sucrose monopalmitate: Influence of pH and lyso-lecithin addition. *Food Res. Int.* **2011,** *44,* 3006-3012.

139. Cardenia, V.; Waraho, T.; Rodriguez-Estrada, M.T.; McClements, D.J. and Decker, E.A. Antioxidant and prooxidant activity behavior of phospholipids in stripped soybean oil-in-water emulsions. J. Am. Oil Chem. Soc. **2011**, *88*:1409-1416.

140. Bou, R.; Boon, C.; Kweku, A.; Hidalgo, D.; Decker, E.A. Effect of different antioxidants on lycopene degradation in oil-in-water emulsions. *European Journal of Lipid Science and Technology* **2011,** *113,* 724-729.

141. Chen, B.; Han, A.; Laguerre, M.; McClements, D.J.; Decker, E.A. Role of reverse micelles on lipid oxidation in bulk oils: impact of phospholipids on antioxidant activity of alpha-tocopherol and Trolox. *Food & Function* **2011,** *2,* 302-309.

142. Hu, M.; Li, Y.; Decker, E.A.; Xiao, H.; McClements, D.J. Impact of Layer Structure on Physical Stability and Lipase Digestibility of Lipid Droplets Coated by Biopolymer Nanolaminated Coatings. *Food Biophysics* **2011,** *6,* 37-48.

143. Hur, S.J.; Joo, S.T.; Lim, B.O.; Decker, E.A.; McClements, D.J. Impact of salt and lipid type on in vitro digestion of emulsified lipids. *Food Chem.* **2011,** *126,* 1559-1564.

144. Lee, J.; Decker, E.A. Effects of Metal Chelator, Sodium Azide, and Superoxide Dismutase on the Oxidative Stability in Riboflavin-Photosensitized Oil-in-Water Emulsion Systems. *J. Agric. Food Chem.* **2011,** *59,* 6271-6276.

145. Lim, S.S.; Baik, M.Y.; Decker, E.A.; Henson, L.; Popplewell, L.M.; McClements, D.J.; Choi, S.J. Stabilization of orange oil-in-water emulsions: A new role for ester gum as an Ostwald ripening inhibitor. *Food Chem.* **2011,** *128,* 1023-1028.

146. Sorensen, A.M.; Nielsen, N.S.; Decker, E.A.; Let, M.B.; Xu, X.; Jacobsen, C. The Efficacy of Compounds with Different Polarities as Antioxidants in Emulsions with Omega-3 Lipids. *Journal of the American Oil Chemists Society* **2011,** *88,* 489-502.

147. Li, Y.; Hu, M.; Xiao, H.; Du, Y.; Decker, E.A.; McClements, D.J. Controlling the functional performance of emulsion-based delivery systems using multi-component biopolymer coatings. *European Journal of Pharmaceutics and Biopharmaceutics* **2011,** *77,* 186-186.

148. Lee, S.J.; Choi, S.J.; Li, Y.; Decker, E.A.; McClements, D.J. Protein-Stabilized Nanoemulsions and Emulsions: Comparison of Physicochemical Stability, Lipid Oxidation, and Lipase Digestibility. *J. Agric. Food Chem.* **2011,** *59,* 415-427.

149. Waraho, T.; McClements, D.J.; Decker, E.A. Mechanisms of lipid oxidation in food dispersions. *Trends Food Sci. Technol.* **2011,** *22,* 3-13.

150. Qian, C.; Decker, E.A.; Xiao, H.; McClements, D.J. Comparison of Biopolymer Emulsifier Performance in Formation and Stabilization of Orange Oil-in-Water Emulsions. *Journal of the American Oil Chemists Society* **2011,** *88,* 47-55.

151. Hur, S.J.; Lim B.O.; Decker, E.A. and McClements D.J. *In vitro* human digestion models for food applications. Food Chem. **2011**, *125*:1-12.

152. Chen, B.; McClements, D.J. and Decker, E.A. Minor Components in Food Oils: A Critical Review of their Roles on Lipid Oxidation Chemistry in Bulk Oils and Emulsions. *Crit. Rev. Food Sci. Nutr.* **2011,** 51:901-916.

153. Bou, R.; Chen, B.; Guardiola, F.; Codony, R.; Decker, E.A. Determination of lipid and protein hydroperoxides using the fluorescent probe diphenyl-1-pyrenylphosphine. Food Chem. 2010, 123, 892-900.

154. Chen, B.; Han, A.; McClements, D.J. and Decker, E.A. Physical Structures in Soybean Oil and their Impact on Lipid Oxidation. J. Agric. *Food Chem.* **2010**, *58*:11993-11999.

155. Choi, S.J.; Decker, E.A..; Henson,L.; Popplewell,L.M.; McClements, D.J. Influence of Droplet Charge on the Chemical Stability of Citral in Oil-in-Water Emulsions. *J. Food Science*, **2010**, *75*:C536-C540.

156. McCowen, K.C.; Ling, P.P.; Decker, E.A.; McClements, D.J.; Djordjevic, D.; Roberts, R.F. Coupland, J.N.; and Bistrian, B.R. A simple method of supplementation of n-3 polyunsaturated fatty acids:- use of fortified yogurt in healthy volunteers. *Nutr. Clin. Prac.* **2010**, *25*:641-645.

157. Decker E.A.; Alamed J. and Castro I.A. Interaction between Polar Components and the Degree of Unsaturation of Fatty Acids on the Oxidative Stability of Emulsions. *J. Am. Oil Chem. Soc.* **2010**, *87*:771-780.

158. Lesmes U.; Sandra S.; Decker EA and McClements, D.J. Impact of surface deposition of lactoferrin on physical and chemical stability of omega-3 rich lipid droplets stabilised by caseinate. *Food Chem*. **2010**, *123*: 99-106.

159. Matalanis, A.; Lesmes, U.; Decker, E.A. and McClements, D.J. Fabrication and characterization of filled hydrogel particles based on sequential segregative and aggregative biopolymer phase separation. *Food Hydrocolloids* **2010**, *24*: 689-701.

160. Hu, M.; Li, Y.; Decker, E.A. and McClements, D.J. Role of calcium and calcium-binding agents on the lipase digestibility of emulsified lipids using an in vitro digestion model. *Hydrocolloids* **2010**, *24*: 719-725.

161. Cho, Y.H.; Decker, E.A. and McClements, D.J. Formation of Protein-Rich Coatings around Lipid Droplets Using the Electrostatic Deposition Method. *Langmuir* **2010**, *26*: 7937-7945.

162. Boon, C.S.; McClements, D.J.; Weiss, J. and Decker, E.A. Factors Influencing the Chemical Stability of Carotenoids in Foods *Crit. Rev Food Sci. Nutr*. **2010**, *50*:515-532.

163. Panya, A.; Laguerre, M.; Lecomte, J.; Villeneuve, P.; Weiss, J.; McClements, D.J. and Decker, E.A. Effects of Chitosan and Rosmarinate Esters on the Physical and Oxidative Stability of Liposomes. *J. Agric. Food Chem.* **2010,** *58,* 5679-5684.

164. Choi, S.J.; Decker, E.A..; Henson,L.; Popplewell,M.; McClements, D.J. Inhibition of citral degradation in model beverage emulsions using micelles and reverse micelles. *Food Chem.* **2010**, 122:111-116.

165. Bou R.; Hanquet, N. Codony R.; Guardiola F. and Decker E.A. Effect of heating oxyhemoglobin and methemoglobin on microsomes oxidation. *Meat Sci*. **2010**, 85:47-53.

166. Salminen, H., Heinonen, M. and Decker, E.A. Antioxidant effects of berry phenolics incorporated in oil-in-water emulsions with continuous phase β-lactoglobulin. *JAOCS*. **2010**, *87*:419-428.

167. Hu, M.; Li, Y.; Decker, E.A.; Xiao, H.; McClements, D.J. Influence of Tripolyphosphate Cross-Linking on the Physical Stability and Lipase Digestibility of Chitosan-Coated Lipid Droplets. *J. Agric. Food Chem.* **2010,** *58,* 1283-1289.

168. Jones, O.G; Decker, E.A.; McClements, D.J. Thermal analysis of beta-lactoglobulin complexes with pectins or carrageenan for production of stable biopolymer particles. *Food Hydrocoll.* **2010,** *24,* 239-248.

169. Jones, O.G.; Decker, E.A.; McClements, D.J. Comparison of protein-polysaccharide nanoparticle fabrication methods: Impact of biopolymer complexation before or after particle formation. *J. Colloid Interface Sci.* **2010,** *344,* 21-29.

170. Laguerre, M.; Giraldo, L.J.L.; Lecomte, J.; Figueroa-Espinoza, M.; Barea, B.; Weiss, J.; Decker, E.A.; Villeneuve, P. Relationship between Hydrophobicity and Antioxidant Ability of "Phenolipids" in Emulsion: A Parabolic Effect of the Chain Length of Rosmarinate Esters. *J. Agric. Food Chem.* **2010,** *58,* 2869-2876.

171. Mercadante, A.Z.; Capitani, C.D.; Decker, E.A.; Castro, I.A. Effect of natural pigments on the oxidative stability of sausages stored under refrigeration. *Meat Sci.* **2010,** *84,* 718-726.

172. Chen, B.; Decker, E.A. and McClements, D.J. Role of continuous phase anionic polysaccharides on the oxidative stability of Menhaden oil-in-water emulsions. *J. Agric. Food Chem* **2010,** *58*, 3779-3784.

173. Mei, L.; Choi, S.J.; Alamed, J.; Henson, L.; Popplewell, M.; McClements, D.J. and Decker, E.A. Citral stability in oil-in-water emulsions with solid or liquid octadecane. *J. Agric. Food Chem* **2010,** *58*:533-536.

174. Laguerre, M.; Giraldo, L.J.L.; Lecomte, J.; Figueroa-Espinoza, M.C.; Barea, B.; Weiss, J.; Decker, E.A.; Villeneuve, P. Chain Length Affects Antioxidant Properties of Chlorogenate Esters in Emulsion: The Cutoff Theory Behind the Polar Paradox. *J. Agric. Food Chem* **2009.** *57*:11335-11342.

175. Choi, S.J.; Decker, E.A..; Henson,L.; Popplewell,M.; McClements, D.J. Stability of Citral in Oil-in-Water Emulsions Prepared with Medium-Chain Triacylglycerols and Triacetin. *J. Agric. Food Chem* **2009.** *57*:11349-11353.

176. Decker, E.A. Challenges to control rancidity in complex food systems. *Food Sci. Technol.* **2009**, *23* (4):28-29.

177. Bou R.; Codony R.; Tres A.; Decker E.A. and Guardiola F. Dietary Strategies to Improve Nutritional Value, Oxidative Stability, and Sensory Properties of Poultry Products. *Crit. Rev Food Sci. Nutr*. **2009**, *49*:800-822.

178. Chanasattru, W.; Jones, O.G.; Decker, E.A. and McClements, D.J. Impact of cosolvents on formation and properties of biopolymer nanoparticles formed by heat treatment of beta-lactoglobulin-pectin complexes. *Food Hydrocolloids* **2009**, 23: 2450-2457.

179. Pignoli, G.; Bou R.; Rodriguez-Estrada, M.T.; Decker, E.A Suitability of saturated aldehydes as lipid oxidation markers in washed turkey meat. *Meat Sci.* **2009**, *83*:412-416.

180. Sasaki, K.; Alamed, J.; Weiss J.; Villeneuve P.; Giraldo L.J.L.; Lecomte J.; Figueroa- Espinoza M.C.; Decker E.A., Relationship between the physical properties of chlorogenic acid esters and their ability to inhibit lipid oxidation in oil-in-water emulsions. *Food Chem.* **2009**, *118*:830-835.

181. Helgason, T.; Awad, T.S.; Kristbergsson, K.; Decker, E.A.; McClements,D.J. and Weiss, J.; Impact of surfactant properties on oxidative stability of beta-carotene encapsulated within solid lipid nanoparticles . *J. Agric. Food Chem* **2009**, 57:8033-8040.

182. Awad, T.S.; Helgason, T.; Weiss, J.; Decker, E.A. and McClements, D.J. Effect of omega-3 fatty acids on crystallization, polymorphic transformation and stability of tripalmitin solid lipid nanoparticle suspensions . *Crystal Growth Design* **2009**, 9:3405-3411.

183. Waraho, T.; Cardenia, V.; Rodriguez-Estrada, M.T.; McClements, D.J. and Decker, E.A. Prooxidant mechanisms of free fatty acids in stripped soybean oil-in-water emulsions. *J. Agric. Food Chem* **2009**, *57*: 7112-7117.

184. McClements, D.J.; Decker,E.A**;** Park, Y. and Weiss, J. Structural Design Principles for Delivery of Bioactive Components in Nutraceuticals and Functional Foods. *Crit. Rev. Food Sci. Nutr.* **2009**, 49:577–606.

185. Jones, O.G.; Decker, E.A. and McClements, D.J. Formation of biopolymer particles by thermal treatment of beta-lactoglobulin-pectin complexes. *Food Hydrocolloids*, **2009**, 23: 1312-1321.

186. Boon, C.S.; McClements, D.J.; Weiss, J. and Decker, E.A. Role of iron and hydroperoxides in the degradation of lycopene in oil-in-water emulsions. *J. Agric..Food Chem.* **2009**, 57:2993-2998.

187. Alamed, J..; McClements, D.J.. and Decker, E.A. Relationships between free radical scavenging and antioxidant activity in foods. *J. Agric..Food Chem.* **2009**, 57:2969-2976.

188. Cho, Y.H.; Decker, E.A. and McClements, D.J. Competitive Adsorption of Mixed Anionic Polysaccharides at the Surfaces of Protein-Coated Lipid Droplets. *Langmuir* **2009**, 25:2654-2660.

189. Choi, S.J.; Decker, E.A. and McClements, D.J. Impact of Iron Encapsulation within the Interior Aqueous Phase of Water-in-Oil-in-Water emulsions on Lipid Oxidation. *Food Chemistry*. **2009**, 116:271-276.

190. Hur, S.J.; Decker, E.A. and McClements, D.J. Influence of initial emulsifier type on microstructural changes occurring in emulsified lipids during in vitro digestion. *Food Chemistry*. **2009**, 116:253-262.

191. Awad, T.S.; Helgason, T.; Kristbergsson, K.; Weiss, J.; Decker, E.A.; McClements, D.J. Temperature scanning ultrasonic velocity study of complex thermal transformations in solid lipid nanoparticles. *Langmuir* **2009**, 24:12779-12784

192. McClements, D.J.; Decker,E.A and Park, Y. Controlling lipid bioavailability through physicochemical and structural approaches**.** *Crit. Rev. Food Sci. Nutr.* **2009**, 49: 48-67.

193. López-Giraldo L.J., Laguerre M., Lecomte J., Figueroa- Espinoza M.C., Baréa B., Weiss J., Decker E.A., Villeneuve P. Kinetic and stoichiometry of the reaction of chlorogenic acid and its alkyl esters against

DPPH radical. *J. Agric..Food Chem.* **2009**, 57:863-870.

194. Chanasattru, W.; Decker, E.A.; McClements, D.J. Influence of glycerol and sorbitol on thermally induced droplet aggregation in oil-in-water emulsions stabilized by beta-lactoglobulin. *Food Hydrocolloids*, **2009**, 23: 253-261.

195. Ke, S.; Huang, Y.; Decker, E.A. and Hultin, H.O. Impact of citric acid on the tenderness, microstructure and oxidative stability of beef muscle. *Meat Science* **2009**, 82:113-118.

196. Bou, R.; Elias, R.J.; Faustman, C.; Guardiola, F.; Codony, R.; Decker, E.A. Effect of heating oxymyoglobin and metmyoglobin on the oxidation of muscle microsomes. *J. Agric..Food Chem.* **2008**, 56:9612-9620.

197. Sandra, S.; Decker, E.A.; McClements, D.J. Effect of interfacial protein cross-linking on the in vitro digestibility of emulsified corn oil by pancreatic lipase. *J. Agric. Food Chem.* **2008**, 56:7488-7494.

198. Chanasattru, W.; Decker, E.A.; McClements, D.J. Impact of cosolvents (polyols) on globular protein functionality: Ultrasonic velocity, density, surface tension and solubility study. *Food Hydrocolloids*, **2008**, 22: 1475-1484.

199. Decker, E.A. Understanding rancidity in complex foods: The key to developing new antioxidant technologies. *Inform* **2008**. 19:534-536.

200. Katsuda, M.S.; McClements, D.J.; Miglioranza, L.H.S.; Decker, E.A. Physical and oxidative stability of fish oil-in-water emulsions stabilized with beta-lactoglobulin and pectin. *J. Agric. Food Chem.* **2008**, 56:5926-5931.

201. Bonnaire, L.; Sandra, S.; Helgason, T.; Decker, E.A.; Weiss, J.; McClements, D.J. Influence of lipid physical state on the in vitro digestibility of emulsified lipids. *J. Agric. Food Chem.* **2008**, 56:3791-3797.

202. Weiss, J.; Decker, E.A.; McClements, D.J.;Kristbergsson, K.; Helgason, T.; Awad, T. Solid lipid nonoparticles as delivery systems for bioactive food components. *Food Biophysics* **2008**, 3:146-154.

203. Awad, T.S.; Helgason, T.; Kristbergsson, K.; Decker, E.A.; Weiss, J.; McClements, D.J. Effect of cooling and heating rates on polymorphic transformations and gelation of tripalmitin solid lipid nanoparticle (SLN) suspensions. *Food Biophysics* **2008**, 3:155-162.

204. McClements, D.J.; Decker, E.A.; Park, Y.; Weiss, J. Designing food structure to control stability, digestion, release and absorption of lipophilic food components. *Food Biophysics* **2008**, 3:219-228.

205. Bou, R.; Codony, R.; Tres, A; Decker, E.A.; Guardicila, F. Determination of hydroperoxides in foods and biological samples by the ferrous oxidation-xylenol orange method: A review of the factors that influence the method's performance. **2008**. *Anal. Biochem*. 377:1-15.

206. Elias, R.J.; Kellerby, S.S.; Decker, E.A. Antioxidant Activity of Proteins and Peptides in Foods. *Crit. Rev. Food Sci. Nutr.* **2008**. 48:430-441.

207. Boon, C.S.; Xu, Z.; Yue, X.; McClements, D.J.; Weiss, J.; Decker, E.A. Factors impacting lycopene oxidation in oil-in-water emulsions. *J. Agric. Food Chem.* **2008**, 56:1408-1414.

208. Djordjevic, D.; Cercaci, L.; Alamed, J.; McClements, D.J.; Decker, E.A. Chemical and Physical Stability of Protein- and Gum Arabic-Stabilized Oil-in-Water Emulsions Containing Limonene. *J. Food Sci.* **2008**, 73:C167-C172.

209. Iwanga, D.; Gray, D.; Decker, E.A.; Weiss, J. and McClements, D.J. Stabilization of soybean oil bodies using protective pectin coatings formed by electrostatic deposition. *J. Agric. Food Chem*. **2008**, 56:2240-2245.

210. Mun, S.; Cho, Y.; Decker, E.A.; McClements, D.J. Utilization of polysaccharide coatings to improve freeze-thaw and freeze-dry stability of protein-coated lipid droplets. *J. Food Eng.* **2008**. 86:508-518.

211. Chaiyasit, W.; McClements, D.J.; Weiss, J.; Decker, E.A. Impact of Surface Active Compounds on Physicochemical and Oxidative Properties of Edible Oil. *J. Agric. Food Chem*. **2008**, 56:550-556.

212. Thanonkaew, A.; Benjakul, S.; Visessanguan, W.; Decker, E.A. The effect of antioxidants on the quality changes of cuttlefish (Sepia pharaonis) muscle during frozen storage. *LWT-Food Sci Technol* **2008**, 41 (1): 161-169.

213. Djordjevic, D.; Cercaci, L.; Alamed, J.; McClements, D.J.; Decker, E.A. Stability of Citral in Protein- and Gum Arabic-Stabilized Oil-in-Water Emulsions. *Food Chem*. **2008**, 106:698-705.

214. Yuji, H.; Weiss, J.; Villeneuve, P.; López Giraldo, L.J.; Figueroa-Espinoza, M.C.; Decker, E.A. Ability of surface active antioxidants to inhibit lipid oxidation in oil-in-water emulsions. *J. Agric. Food Chem.* **2007**, 55(26); 11052-11056.

215. McClements, D.J.; Decker,E.A. and Weiss, J. Emulsion-Based Delivery Systems for Lipophilic Bioactive Components. *J. Food Sci* **2007,** .72(8): R109-R124.

216. Paliandre, S.; Decker, E.A. and McClements, D.J. Improvement of stability of oil-in-water emulsions containing caseinate-coated droplets by addition of sodium alginate. J. Food Sci. **2007**, 72:E518-E524**.**

217. Iwanga, D.; Gray, D.; Fisk, I.D.; Decker, E.A.; Weiss, J. and McClements, D.J. Extraction and Characterization of Oil Bodies from Soy Beans: A Natural Source of Pre-Emulsified Soybean Oil. *J. Agric. Food Chem* **2007**, 55:8711-8716.

218. Chaiyasit, W.; Stanley, C.B.; Strey, H.H.; McClements, D.J.; Decker, E.A. Impact of surface active compounds on iron catalyzed oxidation of methyl linolenate in AOT-water-hexadecane Systems. Food Biophysics **2007**, 2:57-66.

219. Chanasattru, W.; Decker, E.A.; McClements, D.J. Inhibition of droplet flocculation in globular-protein stabilized oil-in-water emulsions by polyols. *Food Res Intl.* **2007**, 40:1161-1169.

220. Mun, S.; Decker, E.A.; McClements, D.J. Influence of emulsifier type on *in vitro* digestibility of lipid droplets by pancreatic lipase. *Food Res Intl.* **2007**, 40:770-781.

221. Chaiyasit, W.; Elias, R.J.; McClements, D.J. and Decker, E.A. Role of Physical Structures in Bulk Oils on Lipid Oxidation. *Crit. Rev. Food Sci. Nutr*. **2007**. 47:299-317.

222. Park,G.Y.; Mun, S.; Park, Y.; Rhee, S.; Decker,E.A.; Weiss, J.; McClements, D.J.; Park, Y. Influence of Encapsulation of Emulsified Lipids with Chitosan on their *In Vivo* Digestibility. *Food Chem*. **2007**, 104:761-767.

223. Chanasattru, W.; Decker, E.A.; McClements, D.J. Modulation of thermal stability and heat-induced gelation of β-lactoglobulin by high glycerol and sorbitol levels. *Food Chem*. **2007**, 103:512-520.

224. Djordjevic, D.; Cercaci, L.; Alamed, J.; McClements, D.J.; Decker, E.A. Chemical and Physical Stability of Citral and Limonene in SDS-chitosan and Gum Arabic Stabilized Oil-in-Water Emulsions. *J. Agric. Food*

Chem **2007,** 55(9): 3585-3591.

225. Elias, R.J.; McClements, D.J.; Decker, E.A. Impact of Thermal Processing on the Antioxidant Mechanisms of Continuous Phase β-Lactoglobulin in Oil-in-Water Emulsions. **2007,** *Food Chem* 104:1402-1409.

226. Shaw, L. A. McClements, D.J.; Decker, E.A. Spray dried multilayered emulsions as a delivery method for omega-3 fatty acids into food systems. **2007**, *J. Agric. Food Chem* 55(8): 3112-3119.

227. Gu, Y. S.; Decker, E. A.; McClements, D. J. Application of multi-component biopolymer layers to improve the freeze-thaw stability of oil-in-water emulsions: beta-lactoglobulin-iota-carrageenan-gelatin. *J. Food Engineering*, **2007**, 80: 1246-1254.

228. Gu, Y.S.; Decker, E.A.; McClements, D.J. Formation of colloidosomes by adsorption of small charged oil droplets onto the surface of large oppositely charged oil droplets. *Food Hydrocolloids*, **2007**, 21: 516-526.

229. Thanonkaew, A.; Benjakul, S.; Visessanguan, W.; Decker, E.A. Yellow discoloration of cuttlefish liposome system as influenced by lipid oxidation. *Food Chem* **2007**, 102: 219-224.

230. Chee, C. P.; Djordjevic, D.; Faraji, H.; Decker, E.A.; Hollender, R.; McClements, D. J.; Peterson, D. G.; Roberts, R. F. and Coupland, J. N. Sensory Properties of Vanilla and Strawberry Flavored Ice cream Supplemented with Omega-3 Fatty Acids. *Milchwissenschaft* **2007**. 62(1): 66-69

231. Cercaci, L.; Rodriguez-Estrada, M.T.; Lercker, G.; Decker, E.A. Phytosterol oxidation in oil-in-water emulsions and bulk oil. *Food Chemistry*, **2007**, 102: 161-167.

232. Kellerby, S.S.; Gu, Y.S.; McClements, D.J.; Decker, E.A. Lipid oxidation in a menhaden oil-in-water emulsion stabilized by sodium caseinate cross-linked with transglutaminase. *J. Agric. Food Chem*. **2006**, 54: 10222-10227.

233. Elias, R.J.; Bridgewater, J.D.; Vachet, R.W.; Waraho, T.; McClements, D.J.; Decker, E.A. Antioxidant Mechanisms of Enzymatic Hydrolysates of β-Lactoglobulin in Food Lipid Dispersions. *J. Agric Food Chem*. **2006**, 54: 9565-9572.

234. Beysseriat, M.; Decker, E.A.; McClements, D.J. Influence of Dietary Fiber on Properties of Oil-in-Water Emulsions Passed Through an In Vitro Human Digestion Model. *Food Hydrocolloids*, **2006**, 20: 800-809.

235. Gu, Y.S.; Decker, E.A.; McClements, D.J. Irreversible thermal denaturation of beta-lactoglobulin retards adsorption of carrageenan onto beta-lactoglobulin-coated droplets. *Langmuir,* **2006**, 22: 7480-7486.

236. Mun, S.; Decker, E.A.; Park, Y.; Weiss, J.; McClements, D.J. Influence of Interfacial Composition on *in Vitro* Digestibility of Emulsified Lipids: Potential Mechanism for Chitosan's Ability to Inhibit Fat Digestion. *Food Biophysics*, **2006**, 1: 21-29.

237. Kellerby, S.S. McClements, D.J.; Decker, E.A. Role of Proteins in Oil-in-Water Emulsions on the Stability of Lipid Hydroperoxides. *J Agric Food Chem.,* **2006**, 54:7879-7884.

238. Lee, S.; Hernandez, P.; Djordjevic, D.; Faraji, H.; Hollender, R.; Faustman, C. and Decker, E.A. Effect of Antioxidants and Cooking on Stability of n-3 Fatty Acids in Fortified Meat Products. J. Food Sci., 2006, 71 (3): C233-C238.

239. Mun, S.: Decker, E.A.; McClements, D.J. Effect of Molecular Weight and Degree of Deacetylation of Chitosan on the Formation of Oil-in-Water Emulsions Stabilized by Surfactant-Chitosan Membranes. *J. Colloid and Interface Sci*., **2006**, 296: 581-590.

240. Klinkesorn, U.; Sophanodora, P.; Chinachoti, P; Decker, E.A. .; McClements, D.J. Characterization of spray-dried tuna oil emulsified in two-layered interfacial membranes prepared using electrostatic layer-by-layer deposition. *Food Res. Intl,* **2006**, 39: 449-457.

241. Kim, H-J.; Decker, E.A.; McClements, D.J. Preparation of multiple emulsions based on thermodynamic incompatibility of heat-denatured whey protein and pectin solutions. *Food Hydrocolloids*. **2006,** 20: 586-595.

242. Surh J., Decker E.A., McClements D.J. Properties and stability of oil-in-water emulsions stabilized by fish gelatin. *Food Hydrocolloids*. **2006,** 20: 596-606.

243. Surh J., Decker E.A., McClements D.J. Influence of pH and pectin type on properties and stability of sodium-caseinate stabilized oil-in-water emulsions. *Food Hydrocolloids*. **2006,** 20: 607-618.

244. Thanonkaew, A.; Benjakul, S.; Visessanguan, W.; Decker, E.A. Development of yellow pigmentation in squid (*Loligo peali*) as a result of lipid oxidation. *J. Agric. Food Chem,* **2006**, 54:956-962.

245. Lee, S.; Djordjevic, D.; Faraji, H.; Decker, E.A.; Faustman, C. Effects of antioxidant on stabilization of meat products with n-3 fatty acids. *Meat Science*, **2006**, 72:18-24.

246. Alamed, J.; McClements, D.J.; Decker, E.A. Influence of heat processing and calcium ions on the ability of EDTA to inhibit lipid oxidation in oil-in-water emulsions containing omega-3 fatty acids. *Food Chem.*, **2006**, 95:585-590.

247. Thanonkaew, A; Benjakul, S.; Visessanguan, W. and Decker, E.A. The effect of metal ions on lipid oxidation, colour and physiochemical properties of cuttlefish (*Sepia pharaonis*) subjected to multiple freeze-thaw cycles. *Food Chem.*, **2006**, 95:591-599.

248. Elias, R.J.; McClements, D.J.; Decker, E.A. Antioxidant activity of cysteine, tryptophan and methionine residues in continuous phase β-lactoglobulin in oil-in-water emulsions. *J. Agric. Food Chem,* **2005**, 53: 10248-10253.

249. Okuda, S.; McClements, D.J.; Decker, E.A. Impact of the Physical State of Lipids in Oil–in–Water Emulsions on the Oxidation of Methyl Linolenate. *J. Agric. Food Chem,* **2005**, 53:9624-9628.

250. Klinkesorn, U.; Sophanodora, P.; Chinachoti, P.; McClements, D.J.; Decker, E.A. Stability of Spray Dried Tuna Oil Emulsions Encapsulated with Two-Layered Interfacial Membranes. *J. Agric. Food Chem,***2005**, 53:8365-8371.

251. Chee, C.P.; Gallaher, J.J.; Djordjevic, D.; Faraji, H.; McClements, D.J. Decker, E.A.; Hollender, R.; Peterson, D.G.; Roberts R.F. and Coupland, J.N. Chemical and sensory analysis of strawberry flavored yogurt supplemented with an omega-3 rich emulsion. *J. Dairy Res*., **2005**,72:311-316.

252. Thanonkaew, A.; Benjakul, S.; Visessanguan, W.; Decker, E.A. Lipid oxidation in microsomal fraction of squid muscle (*Loligo peali*) *J. Food Sci* **2005,** 70:C478-482.

253. Klinkesorn, U.; Sophanodora, P.; Chinachoti, P; Decker, E.A. .; McClements, D.J. Encapsulation of emulsified tuna oil in two-layered interfacial membranes prepared using electrostatic layer-by-layer deposition. *Food Hydrocolloids*. **2005***,* 19:1044-1053.

254. Mun, S.: Decker, E.A.; McClements, D.J. Influence of droplet characteristics on the formation of oil-in-water emulsions stabilized by surfactant-chitosan layers. *Langmuir*. **2005** 21:6228-34.

255. Gu, Y.S.; Decker, E.A.; McClements, D.J. Influence of environmental stresses on stability of oil-in-water emulsions containing droplets stabilized by β-lactoglobulin– ι-carrageenan membranes. *J. Colloid Interface Sci*., **2005**, *286:* 551-558.

256. Gu, Y.S.; Decker, E.A.; McClements, D.J. Production and characteristics of oil-in-water emulsions containing droplets stabilized by β-lactoglobulin-ι-carrageenan-gelatin membranes. *Langmuir,* **2005**, 21:5752-5760.

257. Chaiyasit, W.; McClements, D.J.; Decker, E.A. Ability of antioxidants to alter interfacial tension and lipid oxidation in bulk oil and oil-in-water emulsions. *J. Agric. Food Chem,* **2005**, 53:4982-4988.

258. Park, Y.J.; Volpe, S.L;. Decker, E.A. Quantitation of Carnosine in Humans Plasma after Dietary Consumption of Beef. *J. Agric. Food Chem,* **2005**, 53:4736-4739.

259. Lee, S.; Decker, E.A.; Faustman, C.; Mancini, RA.. The effects of antioxidant combinations on color and lipid oxidation in n-3 oil fortified ground beef patties. *Meat Science*, **2005**, 70:683-689.

260. Klinkesorn, U.; Sophanodora, P.; Chinachoti, P.; McClements, D.J.; Decker, E.A. Increasing the oxidative stability of liquid and dried tuna oil-in-water emulsions with electrostatic layer-by-layer deposition technology. *J. Agric. Food Chem,* **2005**, 53:4561-4566.

261. Surh J.; Gu Y.S.; Decker E.A.; McClements D.J. Influence of Environmental Stresses on Stability of O/W Emulsions Containing Cationic Droplets Stabilized by SDS-Fish Gelatin Membranes*. J Agric Food Chem.* **2005**, 53:4236-44.

262. Decker, E.A.; Warner, K.; Richards, M.P.; Shahidi, F. Measuring Antioxidant Effectiveness in Food. *J. Agric. Food Chem,* **2005**, 53:4303-4310.

263. Daiz, M.; Decker, E.A. Antioxidant mechanisms of caseinophosphopeptides and casein hydrolysates and their application in ground beef. *J. Agric. Food Chem,* **2005**, 52:8208-8213.

264. Kim, H-J.; Decker, E.A.; McClements, D.J. Influence of protein concentration and order of addition on thermal stability of beta-lactoglobulin stabilized n-hexane oil-in-water emulsions at neutral pH. *Langmuir* **2005**, 21:134-139.

265. Gu, Y.S.; Decker, E.A.; McClements, D.J. Influence of pH and carageenan type on properties of beta-lactoglobulin stabilized oil-in-water emulsions. *Food Hydrocolloids* **2005**, 19:83-91.

266. Aoki, T.; Decker, E.A.; and McClements, D.J. Influence of environmental stresses on stability of O/W emulsions containing droplets stabilized by multilayered membranes produced by a layer-by-layer electrostatic deposition technique. *Food Hydrocolloids*, **2005**, 19:209-220.

267. Gu, Y.S.; Decker, E.A.; McClements, D.J. Influence of iota-carageenan type on droplet flocculation of beta-lactoglobulin stabilized oil-in-water emulsions during thermal processin. *Langmuir* **2004**, 20:9565-9570.

268. Kim, H-J.; Decker, E.A.; McClements, D.J. Influence of free protein on flocculation stability of beta-lactoglobulin stabilized oil-in-water emulsions at neutral pH and ambient temperature. *Langmuir* **2004**, 20:10394-10398.

269. Hu, M.; McClements, D.J.; Decker, E.A. Antioxidant Activity of a Procyanidin-Rich Extract from Grape Seed in Whey Protein Isolate-Stabilized Algae Oil-in-Water Emulsions *J. Agric. Food Chem,* **2004**,

52:5272-5276.

270. Kim, H-J.; Decker, E.A. and McClements, D.J. Comparison of Droplet Flocculation in Hexadecane Oil-in Water Emulsions Stabilized by β-Lactoglobulin at pH 3 and 7. *Langmuir,* **2004**, *20*: 5753-5758.

271. Faraji, H.; McClements, D.J.; Decker, E.A. The Role of Continuous Phase Protein on the Oxidative Stability of Fish Oil-in-water Emulsions *J. Agric. Food Chem*., **2004**, *52*: 4558-4564.

272. Hu, M.; McClements, D.J.; Decker, E.A. Impact of Chelators on the Oxidative Stability of Whey Protein Isolate-Stabilized Oil-in-Water Emulsions containing ω-3 Fatty Acids. *Food Chem,*. **2004**, *88*: 57-62.

273. Baik, M.-Y.; Suhendro, E.L.; Nawar, W.W.; McClements, D.J.; Decker, E.A.; Chinachoti, P. Effects of Antioxidants and Humidity on the Oxidative Stability of Micro-encapsulated Fish Oil. *J. Amer. Oil Chem. Soc*. **2004**, *81*: 355-360.

274. Djordjevic, D., Alamed, J., Faraji, H., Faustman, C., Coupland, J., Hollander, R., Peterson, D.G., Roberts, R.F., McClements, D.J. and Decker, E.A. Omega-3 Fatty Acids in Functional Foods – Update on Current Research. *Inform* **2004**, *16*, 56-58**.**

275. Hu, M.; McClements, D.J.; Decker, E.A. Engineering Emulsion Droplets to Improve the Oxidative Stability of Omega-3 Fatty Acids in Functional Foods. *Lipid Tech.* **2004**, 16, 79-82.

276. Petursson, S.; Decker, E.A.; McClements, D.J. Stabilization of Oil-in-Water Emulsions by Cod Protein Extracts. *J. Agric. Food Chem.,***2004**, *52*:3996-4001.

277. Djordjevic, D.; Kim, H-J.; McClements, D.J.; Decker, E.A. Physical Stability of Whey Protein-Stabilized Oil-in-Water Emulsions at pH 3: Potential ω-3 Fatty Acid Delivery Systems (Part A). *J. Food Sci.,* **2004**, *69:* C351-355.

278. Djordjevic, D.; Kim, H-J.; McClements, D.J.; Decker, E.A. Oxidative Stability of Whey Protein-Stabilized Oil-in-Water Emulsions at pH 3: Potential ω-3 Fatty Acid Delivery Systems (part B). *J. Food Sci.*, **2004**, *69:* C356-362.

279. Gu, Y.S.; Decker, E.A.; McClements, D.J. Influence of pH and ι-carregeenan concentrations on the physiochemical properties and stability of β-lactoglobulin-stabilized oil-in-water emulsions. *J. Agric. Food Chem*., **2004,** *52*: 3626-3632.

280. Ogawa, S.; Decker, E. A.; McClements, D. J. Production and Characterization of O/W Emulsions Containing Droplets Stabilized by Lecithin-Chitosan-Pectin Mutilayered Membranes. *J. Agric. Food Chem*., **2004,** *52*: 3595-3600.

281. Baier, S.K.; Decker, E.A.; McClements, D.J. Impact of glycerol on thermostability and heat-induced gelation of bovine serum albumin. *Food Hydrocolloids*, **2004**, *18*: 91-100.

282. Park, Y.; Kelleher, S.D.; McClements, D.J.; Decker, E.A. Incorporation and Stabilization of Omega-3 Fatty Acids in Surimi. *J. Agric. Food Chem,* **2004**, *52*:597-601.

283. Connolly, B.J.; Decker, E.A. Peroxynitrite discoloration of muscle foods. *Meat Sci.* **2004**, *66*, 499-505.

284. Moreau, L.; Kim, H-J.; Decker, E.A.; McClements, D.J. Production and characterization of oil-in-water emulsions containing droplets stabilized by β-lactoglobulin-pectin membranes. J. Agric. Food Chem., **2003**, *51*:6612-6617.

285. Cho, Y-J.; Alamed, J.; McClements, D.J.; Decker, E.A. Ability of Chelators to Alter the Physical Location and Reactivity of Iron in Oil-in-Water Emulsions. *J. Food Science* **2003**, *68,* 1952-1957.

286. Ogawa, S.; Decker, E. A.; McClements, D. J. Influence of environmental conditions on the stability of oil in water emulsions containing droplets stabilized by lecithin-chitosan membranes. J. Agric. Food Chem., **2003**, *51*:5522-552.

287. Daiz, M.; McClements, D.J.; Decker, E.A. Use of caseinphosphopeptides as natural metal chelators to inhibit oxidative reactions in oil-in-water emulsions. *J. Agric. Food Chem.* **2003**, *51*:2365-2370.

288. Hu, M.; McClements, D.J.; Decker, E.A. Lipid oxidation in corn oil-in-water emulsions stabilized by casein, whey protein isolate and soy protein isolate *J. Agric. Food Chem.* **2003**, *51*:1696-1700.

289. Ogawa, S. Decker; E.A.; McClements, D.J. Production and characterization of O/W emulsions containing cationic droplets stabilized by lechithin-chitosan membranes. *J. Agric. Food Chem.* **2003**, *51*:2806-2812.

290. Brannan, R.G.; Decker, E.A. Degradation of γ- and α-tocopherol and formation of 5-nitro-γ-tocopherol induced by peroxynitrite in liposomes and skeletal muscle. *Meat Science,* **2003**, *64*:149-156.

291. Hu, M.; McClements, D.J.; Decker, E.A. Impact of whey protein emulsifiers on the oxidative stability of salmon oil-in-water emulsions. *J. Agric. Food Chem.* **2003**, *51*:1435-1439.

292. Nestel, P., Briend, A. de Benoist, B. Decker, E., Ferguson, E., Fontaine, O., Micardi, A. and Nalubola, R. Complementary food supplements to achieve micronutrient adequacy for infants and young childern. *J. Pediatric Gastroenterology and Nutr.* **2003**, *36*:316-328.

293. Kim, H-J.; Decker, E.A.; McClements, D.J. Influence of sucrose on droplet flocculation in hexadecane oil-in-water emulsions stabilized by β-lactoglobulin. *J. Agric. Food Chem.* **2003**, *51*:766 -772.

294. Decker, E.; Beecher, G.; Slavin, J.; Miller, H.E.; Marquart L. Whole grains as a source of antioxidants. *Cereal Foods World* **2002,** *47* (8): 370-373

295. Kim, H-J.; Decker, E.A.; McClements, D.J. Impact of protein surface denaturation on droplet flocculation in hexadecane oil-in-water emulsions stabilized by β-lactoglobulin. *J. Agric. Food Chem.* **2002**, *50*:7131-7137.

296. Cho, Y-J.; McClements, D.J.; Decker, E.A. Ability of surfactant micelles to alter the physical location and reactivity of iron in oil-in-water emulsions. *J. Agric. Food Chem.* **2002**, *50:*5704-5710.

297. Kim, H-J.; Decker, E.A.; McClements, D.J. Role of post-adsorption conformation changes of β-lactoglobulin on its ability to stabilize oil droplets against flocculation during heating at neutral pH. *Langmuir* **2002**, *18*:7577-7583.

298. Danviriyakul, S. McClements, D.J., Decker, E.A., Nawar, W.W. and Chinachoti, P. Physical Stability of Spray Dried Emulsion as affected by Emulsifiers and Processing Conditions. *J. Food Sci.* **2002**, *67*:2183-2189.

299. Nuchi, C.D.; Hernandez, P.; McClements, D.J.; Decker, E.A. Ability of lipid hydroperoxides to partition into surfactant micelles and alter lipid oxidation rates in emulsions. *J. Agric. Food Chem.* **2002**, *50*, 5445-5449.

300. Connolly, B.J.; Brannan, R.G.; Decker, E.A. Potential of peroxynitrite to alter color of myoglobin in muscle foods. . *J. Agric. Food Chem.* **2002**, *50*, 5220-5223.

301. Brannan, R.G.; Decker, E.A. Nitric oxide synthase activity in muscle foods. *Meat Science,* **2002**, *62*, 229-235.

302. Richards, M.P.; Chaiyasit, W.; McClements, D.J.; Decker, E.A. Ability of surfactant micelles to alter the partitioning of phenolic antioxidants in oil-in-water emulsions. *J. Agric. Food Chem.* **2002**, *50*, 1254-1259

303. Lee, S.K.; Han, J.H.; Decker, E.A. Antioxidant activity of phosvitin in phosphatidylcholine liposomes and meat model systems. *J. Food Sci.* **2002**, *67*, 37-41.

304. Miller, H.E.; Salvin, J.; Decker, E.A.; Whole grain functional components and health. *Nutrition Today* **2002**, 39(2):48-49.

305. Brannan, R.G.; Connolly, B.J.; Decker, E.A. Peroxynitrite: A potential inhibitor of lipid oxidation in food. *Trends Food Sci. Technol.* **2001**, *12*, 164-173.

306. Sigfusson, H.; Decker, E.A.; Morrissey, M.; McClements, D.J. Ultrasonic Characterization of North Pacific Albacore (*Thunnus Alalunga). J. Aquatic Food Prod. Tech.* **2001**, *10,* 5-19.

307. Nuchi, C.D., McClements, D.J.; Decker, E.A. Impact of Tween 20 hydroperoxides and iron on the oxidation of methyl linoleate and salmon oil dispersions. *J. Agric. Food Chem.* **2001**, *49,* 4912-4916

308. Brannan, R.G.; Decker, E.A. Peroxynitrite-induced oxidation of lipids: Implications for muscle foods *J. Agric. Food Chem.* **2001**, *49,* 3074-3079

309. Carr, A.C.; Decker, E.A.; Park, Y.J.; Frei, B. Comparison of low-density lipoprotein modification by hypochlorous and hypobromous acids. *Free Rad. Med. Biol.* **2001,** *31,* 62-72.

310. Sigfusson, H.; Decker, E.A.; McClements, D.J. Ultrasonic Characterization of Atlantic Mackerel (*Scomber scombrus). Food Res. Intl.* **2001**, *34,* 15-23.

311. Decker, E.A.; Ivanov, V.; Zhu, B.Z.; Frei, B. Inhibition of low density lipoprotein oxidation by carnosine and histidine. *J. Agric. Food Chem.* **2001**, *49*, 511-516.

312. Camire, M.E.; Ausman, L.M.; Decker, E.; Larick, D.; Nielsen, S.S.; Patrick, R.; Peterson, D.; Regenstein, J.; Schaller, D.; Solberg, M.; Whiting, R.; Zawel, S. IFT research needs report - Diet and health research needs. *Food Technol.* **2001**, 55 (5): 189-191.

313. Decker, E.A. and McClements, D.J. Transition Metal and Hydroperoxide Interactions: An Important Determinant in the Oxidative Stability of Lipid Dispersions. *Inform* **2001**, *12*, 251-255.

314. Tong, L.M.; Sasaki, S.; McClements, D.J.; Decker, E.A. Antioxidant Activity of Whey in a Salmon Oil Emulsion. *J. Food Sci.* **2000**, *65,* 1325-1329.

315. Livisay, S.A.; Zhou, S.; Ip, C.; Decker, E.A. Impact of Dietary Conjugated Linoleic Acid on the Oxidative Stability of Rat Liver Microsomes and Skeletal Muscle Homogenates. *J. Agric. Food Chem.* **2000**, *48*, 4162-4167.

316. Sacheck, J.M.; Decker, E.A.; Clarkson, P.M. The effect of diet on vitamin E intake and oxidative stress in response to acute exercise in female athletes. *Eur. J. Applied Physiol.* **2000**, *83,* 40-46.

317. Sigfusson, H.; Decker, E.A.; McClements, D.J. Rapid Prediction of Atlantic Mackerel (*Scomber scombrus)* Composition using a Hand-Held Ultrasonic Device. *J. Aquatic Food Prod. Tech.* **2000**, *9,* 27-38.

318. Decker, E.A.; Zhou, S.; Livisay, S.A. A Re-Evaluation of the Antioxidant Activity of Purified Carnosine *Biochemistry* (Moscow) **2000**, *65,* 766-770.

319. McClements, D.J. and Decker, E.A. 2000. Lipid oxidation in Oil-in-Water Emulsions: Impact of Molecular Environment on Chemical Reactions in Heterogeneous Food Systems. *J. Food Sci.* **2000**, *65,* 1270-1282.

320. Baublis, A.J., Clydesdale, F.M. and Decker, E.A. Antioxidants in Wheat-Based Breakfast Cereals. *Cereal Foods World.* **2000**, *45,* 71-74.

321. Baublis, A.J.; Lu, C.; Clydesdale, F.M.; Decker, E.A. Potential of Wheat-Based Breakfast Cereals as a Source of Dietary Antioxidants. *J. Amer. Coll. Nutr.* **2000**, *19,* 308S-311S.

322. Chaiyasit, W.; Silvestre, M.P.C.; McClements, D.J.; Decker, E.A. Ability of surfactant tail group size to alter lipid oxidation in oil-in-water emulsions. *J. Agric. Food Chem.* **2000**, *48,* 3077-3080.

323. Tong, L.M.; Sasaki, S.; McClements, D.J.; Decker, E.A. Mechanisms of Antioxidant Activity of a High Molecular Weight Fraction of Whey. *J. Agric. Food Chem.* **2000**, *48,* 1473-1478.

324. Silvestre, M.P.C.; Chaiyasit, W.; Brannan, R.G.; McClements, D.J.; Decker, E.A. Ability of Surfactant Head Group Size to Alter Lipid and Antioxidant Oxidation in Oil-in-Water Emulsions. *J. Agric. Food Chem.* **2000**, *48*, 2057-2061.

325. Baublis, A.; Decker, E.A.; Clydesdale, F.M. Antioxidant Effect of Aqueous Extracts from Wheat-Based Ready-to-Eat Breakfast Cereals. *Food Chem.* **2000**, *68,* 1-6.

326. Mancuso, J. R.; McClements, D.J.; Decker, E.A. Iron Accelerated Cumene Hydroperoxide Decomposition in Hexadecane and Trilaurin Emulsions. *J. Agric. Food Chem.* **2000**, *48,* 213-219.

327. Silvestre, M.P.C.; Decker, E.A.; McClements, D.J. Influence of Copper on the Stability of Whey Protein Stabilized Emulsions. *Food Hydrocolloids.* **1999**, *13,* 419-424.

328. Mancuso, J. R.; McClements, D.J.; Decker, E.A. The Effects of Surfactant Type, pH and Chelators on the Oxidation of Salmon Oil-in-Water Emulsions. *J. Agric. Food Chem.* **1999**, *47,* 4112-4116.

329. Mancuso, J.R.; McClements, D.J.; Decker, E.A. Ability of Iron to Promote Surfactant Peroxide Decomposition and Oxidize α-Tocopherol. *J. Agric. Food Chem.* **1999**, *47,* 4146-4149.

330. Mei, L.; McClements, D.J.; Decker, E.A. Lipid Oxidation in Emulsions as Affected by Charge Status of Antioxidants and Emulsion Droplets. *J. Agric. Food Chem.* **1999.** 47:2267-2273.

331. Zhou, S.; Decker, E.A. Ability of Amino Acids, Dipeptides, Polyamines and Sulfhydryls to Quench Hexanal, a Saturated Aldehydic Lipid Oxidation Product. *J. Agric. Food Chem.* **1999.** 47:1932-1935.

332. Gopalakrishnan, J.; Decker, E.A.; Means, W.J. Antioxidant Activity of Mechanically Separated Pork Extracts. *Meat Sci.* **1999.** 52:101-110.

333. Zhou, S.; Decker, E.A. Ability of Carnosine and Other Skeletal Muscle Components to Quench Unsaturated Aldehydic Lipid Oxidation Products. *J. Agric. Food Chem.* **1999.** 47:51-55.

334. Mei, L.; Decker, E.A.; McClements, D.J. Evidence of Iron Association with Emulsion Droplets and Its Impact on Lipid Oxidation. *J. Agric. Food Chem.* **1998**, *46,* 5072-5077.

335. Suvanich, V.; Ghaedian, R.; Chanamai, R.; Decker, E.A.; McClements, D.J. Prediction of Proximate Fish Composition from Ultrasonic Properties: Catfish, Flounder, Mackerel and Salmon. *J. Food Sci.* **1998**, *63,* 966-968.

336. Donnelly, J.L.; Decker, E.A.; McClements, D.J. Iron-Catalyzed Oxidation of Emulsified Menhaden Oil as Affected by Surfactants. *J. Food Sci.* **1998**, *63,* 997-1000.

337. Zhou, S.; Dickinson, C.; Yang, L.; Decker, E.A. Identification of Hydrazine in Commercial Preparations of Carnosine and Its Influence on Carnosine's Antioxidative Properties. *J. Anal. Biochem.* **1998**, *261,* 79-86.

338. Ghaedian, R.; Coupland, J.N.; Decker, E.A.; McClements, D.J. Ultrasonic Determination of Fish Composition. *J. Food Engin.* **1998,** *35,* 323-337.

339. Decker, E.A. and Xu, Z. Minimizing Rancidity in Muscle Foods. *Food Technology* **1998**, *52,* 54-59.

340. Decker, E.A. Strategies for Manipulating the Prooxidative/Antioxidative Balance of Foods to Maximize Oxidative Stability. *Trends Food Sci. Technol.* **1998**, *9,* 241-248.

341. Tomaino, R.M. and Decker, E.A. High Fat Meals and Endothelial Function. *Nutr. Rev* **1998**, *56,* 184-186

342. Boissonneault, G.A.; Hardwick, T.A.; Bogardus, S.L.; Chan, W.K.M.; Tatum, V.; Glauert, H.P.; Chow, C.K.; Decker, E.A.. Interactions between Carnosine and Vitamin E in Mammary Risk Determination. *Nutr. Res.* **1998**, *18,* 723-733.

343. Mei, L.; Cromwell, G.L.; Crum, A.D.; Decker, E.A. Influence of Dietary β-Alanine and Histidine on the Oxidative Stability of Pork. *Meat Sci.* **1998**, *49,* 55-64.

344. Mei, L.; McClements, D.J.; Wu, J.; Decker, E.A. Iron-Catalyzed Lipid Oxidation in Emulsions as Affected by Surfactants, pH and NaCl. *Food Chem.* **1998**, *61,* 307-312.

345. Bett, K.L.; Johnsen, P.B.; Webster, A.D.; Tiu, L.G.; Xiong, X.L.; Decker, E.A. Sensory and Chemical Evaluation of Sunshine Bass, (*Morone chrysops* X *M. saxatilis)* Fillets during Frozen Storage. *J. Appl. Aquacul.* **1998,** *8,* 53-67.

346. Lee, S.K.; Mei, L.; Decker, E.A. Influence of Sodium Chloride on Antioxidant Enzyme Activity and Lipid Oxidation in Frozen Ground Pork. *Meat Sci.* **1997**, *46,* 349-355.

347. Chan, W.K.M.; Faustman, C.; Yin, M.; Decker, E.A. Lipid Oxidation by Oxymyoglobin with Involvement of Hydrogen Peroxide and Superoxide Anion. *Meat Sci.* **1997**, *46,* 181-190.

348. Chan, W.K.M.; Faustman, C.; Decker, E.A. Effect of Oxidation Products of Phosphatidylcholine Liposomes on Oxymyoglobin Oxidation. *J. Food Sci.* **1997**, *62*, 709-712.

349. Ghaedian, R.; Decker, E.A.; McClements, D.J. Influence of Composition on the Ultrasonic Properties of Cod Fillet. *J. Food Sci.* **1997**, *62,* 500-504.

350. Decker, E.A. Phenolics: Prooxidants or Antioxidants. *Nutr. Rev.* **1997**, *55,* 396-398.

351. Sasaki, S.; Ohta, T.; Decker, E.A. Antioxidant Activity of Water-Soluble Fractions of Salmon Spermary Tissue. *J. Agric. Food Chem.* **1996**, *44,* 1682-1686.

352. Lee, S.K.; Mei, L.; Decker, E.A. Influence of Added Antioxidant Enzymes on Lipid Oxidation in Cook Turkey. *J. Food Sci* **1996**, *61*, 726-728,795.

353. Decker, E.A. The Role of Stereospecific Saturated Fatty Acid Position on Lipid Nutrition. *Nutr. Rev.* **1996**, *54,* 108-110.

354. Srinivasan, S.; Xiong, Y.L.; Decker, E.A. Inhibition of Protein and Lipid Oxidation in Beef Heart Surimi-like Material by Antioxidants and Combinations of pH, NaCl and Buffer Type in the Washing Media *J. Agric. Food Chem.* **1996,** *44,* 119-125.

355. Xiong, Y.L.; Decker, E.A.; Blanchard, S.P.; Crum, A.D.; Shantha, N.C.; Webster, C.D.; Tiu, L.G.; Tidwell, J.H. Dietary Protein Level has Minimal Effect on Flesh Quality of Frozen Stored Sunshine Bass (*Morone chrysops X M. saxatilis). J. Appl. Aquac.* **1996**, *6*:47-63.

356. Decker, E.A.; Chan, W.K.M.; Livisay, S.A.; Butterfield, D.A.; Faustman, C. Interactions Between Carnosine and the Different Redox States of Myoglobin. *J. Food Sci.* **1995**, *60,* 1201-1204.

357. Shantha, N.C.; Ram, L.N.; O'Leary, J.; Hicks, C.L.; Decker, E.A. Conjugated Linoleic Acid in Dairy Products as Affected by Processing and Storage. *J. Food Sci.* **1995**, *60,* 695-697, 720.

358. Xiong, Y.L.; Decker, E.A. Alterations in Muscle Protein Functionality by Oxidative and Antioxidative Processes. *J. Muscle Foods* **1995**, *6,* 139-160.

359. Hennig, B.; Toborek, M.; Boissonneault, G.A.; Decker, E.A.; Oeltgen, P.R. Animal and Plant Fats Selectively Modulate Oxidizability of LDL and LDL-Mediated Disruption of Endothelial Function *J. Nutr.* **1994**, *125*, 2045-2054.

360. Shantha, N.C.; Crum, A.D.; Decker, E.A. Conjugated Linoleic Acid Concentrations in Cooked Beef Containing Antioxidants and Hydrogen Donors. *J. Food Lipids* **1994**, *2,* 57-64.

361. Mei, L.; Crum, A.D.; Decker, E.A. Development of Lipid Oxidation and Inactivation of Antioxidant Enzymes in Cooked Pork and Beef. *J. Food Lipids* **1994**, *1,* 273-283.

362. Shantha, N.C.; Crum, A.D.; Decker, E.A. An Evaluation of Conjugated Linoleic Acid Concentrations in Cooked Beef. *J. Agric Food Chem.* **1994**, *42,* 1757-1760.

363. Decker, E.A. The Role of Phenolics, Conjugated Linoleic Acid, Carnosine and Pyrroloquinoline Quinone as Nonessential Dietary Antioxidants. *Nutr. Rev.* **1994**. *5(3),* 49-58.

364. Chan, K.M. and Decker, E.A. Endogenous Skeletal Muscle Antioxidants. *Crit. Rev. Food Sci. Nutr.* **1994**, *34,* 403-426.

365. Hennig, B., Toborek, M., Alvarado, A. and Decker, E.A. Nutrition, Endothelial Metabolism and Atherosclerosis. *Crit. Rev. Food Sci. Nutr.* **1994**, *34,* 253-282.

366. Chan, K.M.; Decker, E.A.; Lee, J.B.; Butterfield, D.A. EPR Spin-Trapping Studies of the Hydroxyl Radical Scavenging Ability of Carnosine and Related Dipeptides. *J Agric. Food Chem.* **1994**, *42,* 1407-1410.

367. Chan, W.K.M.; Decker, E.A.; Chow, C.K.; Biossonneault, G.A. Effect of Dietary Carnosine on Endogenous Antioxidant Concentrations and Oxidative Stability of Rat Skeletal Muscle. *Lipids* **1994**, *29,* 461-466.

368. Shantha, N.C.; Decker, E.A. Rapid Sensitive Iron-based Spectrophotometric Methods for the Determination of Peroxide Values in Food Lipids. *J. Assoc. Offic. Anal. Chem. Intl.* **1994**, *77,* 421-424.

369. Wan, L.; Xiong, Y.L.; Decker, E.A. Inhibition of Oxidation During Washing Improves the Functionality of Bovine Cardiac Myofibrillar Protein. *J. Agric. Food Chem.* **1993**, *41,* 2267-2271.

370. Xiong, Y.L.; Decker, E.A.; Robe, G.H.; Moody, W.G. Gelation of Beef Heart Myofibrils Isolated Under Antioxidative Conditions. *J. Food Sci.* **1993**, *58,* 1241-1244.

371. Decker, E.A.; E.A., Xiong, X.L.; Calvert, J.T.; Crum, A.D.; Blanchard, S.P. Chemical, Physical and Functional Properties of Oxidized Turkey White Muscle Myofibrillar Proteins. *J. Agric. Food Chem.* **1993**, *41,* 186-189.

372. Hennig, B.; Ramasamy, S.; Alvarado, A.; Shantha, N.C.; Boissonneault, G.; Decker, E.A.; Watkins, B. Selective Disruption of Endothelial Barrier Function by Pure Fatty Acids and Fatty Acids Derived From Animal and Plant Fats. *J. Nutr.* **1993**, *123,* 1208-1216.

373. Shantha, N.C.; Decker, E.A. Conjugated Linoleic Acid Concentrations in Processed Cheese containing Hydrogen Donors, Iron and Dairy Based Additives. *Food Chem.* **1993**, *47,* 257-261.

374. Decker, E.A.; Crum, A.D.; Shantha, N.C.; Morrissey, P.A. Catalysis of Lipid Oxidation by Iron Originating from an Insoluble Fraction of Beef Diaphragm Muscle. *J. Food Sci.* **1993**, *58,* 233-236, 258.

375. Shantha, N.C.; Decker, E.A.; Hennig, B. Comparison of Methylation Methods for the Estimation of Conjugated Linoleic Acid. *J. Assoc. Offic. Anal. Chem. Intl.* **1993**, *76,* 644-649.

376. Chan, K.M.; Decker, E.A.; Means, W.J. Extraction and Activity of the Natural Antioxidant, Carnosine, From Beef Muscle. *J. Food Sci.* **1993**, *58,* 1-4.

377. Decker, E.A.; Crum, A. Control of Lipid Oxidation in Cooked Ground Pork by Carnosine. *Meat Sci.* **1993.**, *34*, 245-253.

378. Calvert, J.T.; Decker, E.A. Inhibition of Lipid Oxidation by Combinations of Carnosine and Various Antioxidants in Ground Turkey. *J. Food Qual.* **1992**, *15,* 423-433.

379. Decker, E.A.; Crum, A.D.; Calvert, J.T. Differences in the Antioxidant Mechanism of Carnosine in the Presence of Copper and Iron. *J. Agric Food Chem.* **1992**, *40,* 756-759.

380. Shantha, N.C.; Decker, E.A.; Ustunol, Z. Conjugated Linoleic Acid Concentration in Processed Cheese. *J. Amer. Oil Chem. Soc.* **1992**, *69*, 425-428.

381. Ustunol, Z.; Xiong, Y.L.; Means, W.J.; Decker, E.A. Forces Involved in Mixed Pork Myofibrillar Protein and Calcium Alginate Gels. *J. Agric. Food Chem.* **1992**, *40,* 577-580.

382. Decker, E.A.; Crum, A. Inhibition of Oxidative Rancidity in Salted Ground Pork by Carnosine. *J. Food Sci.* **1991**, *56*, 1179-1181.

383. Colbert, L.B.; Decker, E.A. Antioxidant Activity of an Ultrafiltration Permeate from Acid Whey. *J. Food Sci.* **1991**, *56,* 1248-1250.

384. Faraji, H.; Decker, E.A.; Aaron, D.K. Suppression of Lipid Oxidation in Phosphatidylcholine Liposomes and Ground Pork by Spray Dried Porcine Plasma. *J. Agric. Food Chem.* **1991**, *39*, 1288-1290.

385. Faraji, H.; Decker, E.A. Factors Influencing the Ability of Porcine Plasma to Inhibit Oxidation of Phosphatidylcholine Liposomes. *J. Food Sci.* **1991**, *56,* 1038-1041.

386. Seman, D.L.; Decker, E.A.; Crum, A.D. Factors Effecting the Catalysis of Lipid Oxidation by a Ferritin-Containing Extract of Beef Muscle. *J. Food Sci.* **1991**, *56,* 356-358.

387. Ramasamy, S.; Boissonneault, G.A.; Decker, E.A.; Hennig, B. Linoleic Acid-Induced Cell Injury: Role of Membrane-Bound Enzyme Activities and Lipid Oxidation. *J. Biochem. Toxic.* **1991**, *6,* 29-35.

388. Decker, E.A.; Faraji, H. Inhibition of Lipid Oxidation by Carnosine, a ß-Alanine-Histidine Dipeptide. *J. Am. Oil Chem. Soc.* **1990**, *69,* 650-652.

389. Decker, E.A.; Welch, B. The Role of Ferritin as a Lipid Oxidation Catalysts in Muscle Foods. *J. Agric. Food Chem.* **1990**, *38,* 674-677.

390. Hennig, B.; Alvarado, A.; Ramasamy, S.; Boissonneault, G.A.; Decker, E.A.; Means, W.J. Fatty Acid-Induced Disruption of Endothelial Barrier Function in Culture. *Biochem Archiv.* **1990**, *6,* 409-417.

391. Decker, E.A.; Hobson, A.D.; Mims, S.D.; Tidwell, J.H. Processing Yields and Composition of Paddlefish (Polyodon spathula), a Novel Aquaculture Species. *J. Agric. Food Chem.* **1990**, *39,* 686-688.

392. Decker, E.A.; Hultin, H.O. Some Factors Influencing the Catalysis of Lipid Oxidation in Mackerel Ordinary Muscle. *J. Food Sci.* **1990**, *55,* 947-950,953.

393. Decker, E.A.; Hultin, H.O. Nonenzymic Catalysts of Lipid Oxidation in Mackerel Ordinary Muscle. *J. Food Sci.* **1990**, *55*, 951-953.

394. Decker, E.A.; Huang, C.-H.; Osinchak, J.E.; Hultin, H.O. Iron and Copper: Role in Enzymic Lipid Oxidation of Fish Sarcoplasmic Reticulum at in situ Concentrations. *J. Food Biochem.* **1988**, *13*(3), 179-186.

395. Decker, E.A.; Erickson, M.C.; Hultin, H.O. Enzymic Lipid Oxidative Activities of Sarcoplasmic Reticulum in Several Species of Northwest Atlantic Fish. *Comp. Biochem. Physiol.* **1988**, *91B,* 7-9.

396. Decker, E.A.; Schanus, E.G. Catalysis of Linoleate Oxidation by Nonheme- and Heme-soluble Chicken Muscle Proteins. *J. Agric. Food Chem.* **1986,** *34,* 991-994.

397. Decker, E.A.; Schanus, E.G. Catalysis of Linoleate Oxidation by Soluble Chicken Muscle Proteins. *J. Am. Oil Chem. Soc.* **1986**, *63,* 101-194.

Books: Co-Editor

1. Decker, E.A., Elias, R. J. and McClements, D.J. (Eds.) *Oxidation in foods and beverages and antioxidant applications, Volume 1. Understanding mechanisms of oxidation and antioxidant activity*. **2010,** Woodhead Publishing, London, UK.

2. Decker, E.A., Elias, R. J. and McClements, D.J. (Eds.) *Oxidation in foods and beverages and antioxidant applications , Volume II . Management in different industry sectors*. **2010,** Woodhead Publishing, London, UK.

3. McClements, D.J. and Decker E.A. (Eds.) *Designing Functional Foods: Understanding, measuring and controlling food structure breakdown and nutrient absorption.* **2009**, Woodhead Publishing, London, UK.

4. Wrolstad, R. (Editor-in-Chief), Acree, T.A., Penner, M.H., Schwartz, S.J., Shoemaker, C.F., Smith D.M. Sporns, P. and Decker, E.A. (Co-Editors), *Handbook of Food Analytical Chemistry: Water, Protein,*

Enzymes, Lipids and Carbohydrates. **2005**, John Wiley & Sons, NY.

5. Wrolstad, R. (Editor-in-Chief), Acree, T.A., Penner, M.H., Schwartz, S.J., Shoemaker, C.F., Smith D.M. Sporns, P. and Decker, E.A. (Co-Editors), *Handbook of Food Analytical Chemistry: Pigments, colorants, Flavors, Texture and Bioactive Food Components.* **2005**, John Wiley & Sons, NY

6. Faustman, C., Decker, E.A. and Lopez-Bote, C. (Eds*.) Antioxidants in Muscle Foods.* **2001**, John Wiley & Sons, NY.

Book Chapters

1. Kittipongpittaya, K.; Salcedo, L, McClements, D.J.; Decker, E.A. **2015**. Impact of Delivery Systems on the Chemical Stability of Bioactive Lipids. In. *Nanotechnology and functional foods: Effective delivery of bioactive ingredients.* Sabliov, C.M., Chen, H., Yada, R.Y. (Eds.), IFT Press, Wiley Blackwell.

2. Decker, E.A., Chen, B., Panya, A. and Elias, R.J. **2010**. Antioxidant Mechanisms. In. *Oxidation in foods and beverages and antioxidant applications, Volume 1. Understanding mechanisms of oxidation and antioxidant activity*. Decker, E.A., Elias, R.J. and McClements, D.J. (Eds.), Woodhead Publishing, London, UK.

3. Elias, R.J. and Decker E.A. **2010**. Protein Antioxidants. In. *Oxidation in foods and beverages and antioxidant applications, Volume 1. Understanding mechanisms of oxidation and antioxidant activity*. Decker, E.A., Elias, R.J. and McClements, D.J. (Eds.), Woodhead Publishing, London, UK.

4. Waraho, T., Cardenia, V., McClements, D.J. Decker E.A. **2010**. Lipid oxidation in emulsified food products. In. *Oxidation in foods and beverages and antioxidant applications, Volume 1. Understanding mechanisms of oxidation and antioxidant activity*. Decker, E.A., Elias, R.J. and McClements, D.J. (Eds.), Woodhead Publishing, London, UK.

5. McClements, D.J. and E.A. Decker **2008**. "Controlling the delivery and adsorption of food lipids". In: *Designing Functional Foods: Understanding, measuring and controlling food structure breakdown and nutrient absorption.* McClements, D.J. and Decker E.A. (Eds.), Woodhead Publishing, London, UK.

6. McClements, D.J., E.A. Decker (**2008**). "Introduction". In: *Designing functional foods: understanding, measuring and controlling food structure breakdown and nutrient absorption for the development of health-promoting foods*, McClements, D.J. E.A. Decker (Eds.), Woodhead Publishing, London, UK.

7. Bou, R., Decker, E.A., Guardiola, F., Codony, R. **2008.** Improvement of poultry meat nutritional value and quality through different natural sources and mineral dietary supplements. In Food Science and Security. Eds Amsel, L. and Hirsch, L. Nova Science Publishers, Inc. Hauppauge NY.

8. McClements, D.J. and Decker, E.A. **2008.** Lipids, In Fennema's Food Chemistry. Ed. Damodarin, S., Parkin, K., Fennema, O.R. CRC Press, Boca Raton, FL

9. McClements, D.J.; Decker, E.A. and Park, Y. Physiological and Structural Aspects of Lipid Digestion. In. Understanding and Controlling the Microstructure of Complex Foods. Ed. D.J. McClements. **2007.** CRC Press, Boca Raton, FL.

10. Decker, E.A. Antioxidant Mechanisms. In. Lipid Chemistry. 3rd Edition, Ed. C.C. Akoh and D.B. Min, **2007**. Marcel Dekker, Inc. New York, NY (in press).

11. Shaw, L.A.; Faraji, H.; Aoki, T.; Djordjevic, D.; McClements, D.J. and Decker, E.A Emulsion Droplet Interfacial Engineering to Deliver Bioactive Lipids into Functional Foods. In: *Delivery and controlled release of bioactives in foods and nutraceuticals,* N. Garti. **2008**. Woodhouse Publishing, Cambridge, UK.

12. Cantor, A.H., Decker, E.A and Collins, V.P. Fatty Acids in Poultry and Eggs Products. In. Fatty Acids in Foods and Their Health Implications. 3rd Edition, Ed. C.K. Chow. **2008.** Marcel Dekker Inc., New York, NY.

13. Faraji, H., Djordjevic, D., Boon, C.S., McClements, D.J. and Decker, E.A 2007. Emulsion-based Omega-3 Fatty Acid Delivery Systems for use in Functional Foods. In. VI Congresso Nazionale of Chimica Degli Alimenti. Edito dalla Società Chimica Italiana a cura di V. Brandolini e E. Menziani.

14. Hu, M.., McClements, D.J. and Decker, E.A. 2004. Emulsion Technologies to Produce Oxidative Stable Emulsions Containing Omega-3 Fatty Acids. In Healthful Lipids, Ed.C.C. Akoh and O. Lai, **2005** AOCS Press, Champaign, IL,

15. Decker, E.A., McClements, D.J., Chaiyasit, W., Nuchi, C., Sivestre, M.P.C., Mancuso, J.R., Tong, L.M. and Mei, L. Factors Influencing Free Radical Formation in Food Emulsions. In. *Free Radicals in Health and Food.* Ed. C.T. Ho and F. Shahidi. **2002**, ACS Press, pp. 83-97.

16. Decker, E.A. Antioxidant Mechanisms. 2nd Edition. In. Lipid Chemistry. Ed. C.C. Akoh and D.B. Min, **2002**. Marcel Dekker, Inc. New York, NY.

17. Decker, E.A. Natural antioxidants in foods. In. Encyclopedia of Physical Science and Technology, 3rd Edition, R.A. Meyers (Ed.). **2002.** Wiley & Sons, New York, NY.

18. Decker, E.A., McClements, D.J., Mancuso, J.R., Tong, L., Mei. L., Sasaki, S., Zeller, S.G. and Flatt, J.H. Impact of Emulsifiers on the Oxidative Stability of Lipid Dispersions High in Omega-3 Fatty Acids. In Omega-3 Fatty Acids: Chemistry, Nutrition and Health. Ed. J. Finely and F. Shahidi. **2001.** ACS Press. pp. 243-257.

19. Decker, E.A. and Clarkson, P. Dietary Sources and Bioavailability of Essential and Nonessential Antioxidants. In. Exercise and Oxygen Toxicity, Ed. C.K. Sen, L. Packer and O. Hanninen. **2000.** Elsevier Science, Amsterdam. pp. 323-358.

20. Decker, E.A. Antioxidants. In. Encyclopedia of Food Science and Technology. Ed. F. J. Francis, **2000.** Wiley & Sons, New York, NY. pp. 75-79.

21. Tomaino, R and Decker, E.A. Phytochemical: Antioxidants. In. Encyclopedia of Food Science and Technology. Ed. F. J. Francis, **2000.** Wiley & Sons, New York, NY. pp. 1895-1901.

22. Decker, E.A., Livisay, S.A. and Zhou, S. Mechanisms of Endogenous Skeletal Muscle Antioxidants: Chemical and Physical Factors. In. Antioxidants in Muscle Foods. Ed. C. Faustman and E.A. Decker. **2000.** John Wiley & Sons, NY.

23. Cantor, A.H., Decker, E.A and Collins, V.P. Fatty Acids in Poultry, Poultry Products and Eggs. In. Fatty Acids in Foods and Their Health Implications. 2nd Edition, Ed. C.K. Chow. **2000.** Marcel Dekker Inc., New York, NY.

24. Decker, E.A. Antioxidant Mechanisms. 1st Edition. In. Lipid Chemistry. Ed. C.C. Akoh and D.B. Min, **1998**. Marcel Dekker, Inc. New York, NY.

25. Decker, E.A., Chan, W.K.M., Mei, L., McNeill-Tompkins, G.L. and Livisay, S.A. Antioxidant Activity of

Carnosine, a Skeletal Muscle Dipeptide. In. Natural Antioxidants. Ed. F. Shahidi, **1997.** American Oil Chemist Society Monograph Series, Champaign, IL.

26. Decker, E.A. and Hultin, H.O. Lipid Oxidation in Muscle Foods via Redox Iron. In. Lipid Oxidation in Foods. Ed. Allen St. Angelo. **1992.** American Chemical Society Symposium Series, Vol. 500. Ed. A.J. St. Angelo, American Chemical Society Books, Washington, D.C.

27. Hultin, H.O., Decker, E.A., Kelleher, S.D. and Osinchak, J.E. Control of Lipid Oxidation Processes in Minced Fatty Fish. Ed. E.G. Bligh. **1992.** Fishing News Books, Oxford.

Patents

1. McClements, D.J. & Decker, E.A. 2013. Cross-linked biopolymers, related compounds and methods of use. US 8,603,566 B2

2. Decker, E.A. and McClements, D.J. 2011. Utilization of Emulsion Interface Engineering to Produce Oxidatively Stable Lipid Delivery Systems. US 8,017,170 B2.

3. McClements, D.J. & Decker, E.A. 2012. Biopolymer-encapsulation and stabilization of lipid systems and methods for utilization thereof. US 8,137,728 B2, 2012.

4. Goddard, J.M. and Decker, E.A.. International Patent Application No. PCT/US2012/069864, "Ion Sequestering Active Packaging Materials".

5. McClements, D.J. & Decker, E.A. 2005. Composition and Procedure for Preparing Stable Acidic Beverage Emulsions.

6. McClements, D.J. & Decker, E.A. 2005. Coated Food Compositions and Related Methods of Preparation.

7. McClements, D.J. & Decker, E.A. 2005. Novel Procedure for Improving Encapsulation of Particulate Materials.

8. Weiss, J., McClements, D.J. & Decker, E.A. 2006. Stabilized antimicrobial compositions and related methods of preparation.

9. Weiss, J., McClements, D.J. & Decker, E.A. 2007. Production of Reduced Fat Foods Using Gelled Biopolymer Particle Double Emulsions.

10. Weiss, J., McClements, D.J. & Decker, E.A. 2007. Novel Procedure to Stabilize Liposomes By Electrostatic Deposition

Symposia and Workshops Organized

Classes of Saturated Fatty Acids and Health Implications, Annual Meeting of the AOCS, Orlando, 2015

Lipid oxidation and Antioxidants, EuroLipid Fed, Florence, Italy 2014.

Lipid oxidation and Antioxidants, EuroLipid Fed, Montpellier, France, 2014.

Lipid Oxidation in Foods: Improving Food Quality and Protecting Bioactive Lipids, University of Massachusetts, 2012.

Re-examination of the Antioxidant Polar Paradox, Annual Meeting of the AOCS, Cincinnati, Ohio, 2011.

3rd Workshop on Omega-3 Fatty Acids in Functional Foods Workshop, Shanghai, China 2007.

2nd Workshop on Omega-3 Fatty Acids in Functional Foods Workshop, Copenhagen, Denmark, 2006.

Lipid Oxidation in Heterogeneous Foods, Annual Meeting of the AOCS, St. Louis, MO, 2006.

Developing functional foods with omega-3 fatty acids. University of Massachusetts, Amherst, 2005.

Measuring Antioxidant Activity in Food Systems at the Second International Congress on Antioxidant Methods, Orlando, FL 2005.

Challenges in the development of functional foods with omega-3 fatty acids, Institute of Food Technologist, Las Vegas, NV, 2004.

Measuring Antioxidant Activity in Food Systems at the First International Congress on Antioxidant Methods, Orlando, FL 2004.

Lipid Oxidation in Complex Systems. Co-Organizer Toshiaki Ohshima, Annual Meeting of American Oil Chemist Society, Kansas City, MO, 2003.

Food Supplements to Achieve Micronutrient Adequacy in Complementary Feeding, Co-Organizers P. Nestel, A. Briend and A. Micardi, USAID/WHO Workshop, Paris, France, 2002.

Oxidation in Heterogenous Foods and Biological Tissues: Impact on Food Quality and Health, Institute of Food Technologist, New Orleans, LA, 2001

Are Nutritional Claim Appropriate for Muscle Foods, Reciprocal Meat Conference, Stillwater, OK, 1999.

Antioxidants and Oxidative Processes in Food and Health, University of Massachusetts, Amherst, MA, 1998

Dietary Strategies for Improving Muscle-Based Food Products, Madrid, Spain, Sept. 7-8, 1998.

Capitalizing on the Benefits of Natural Antioxidants in Nutrition, Health and Food, Dallas, Texas, 1997.

Special Forum on Bovine Spongiform Encephalopathy, Institute of Food Technologists, New Orleans, 1995.

Convergences in the Science of Meat, Poultry and Fish Protein Functionality, Institute of Food Technologist, Atlanta, GA 1994

The Role of Muscle Foods in Health and the Molecular Basis of Disease, Institute of Food Technologist, Atlanta, GA, 1994

Selected Invited Presentations

Delivering Nutrition Policy and Consumer Food Demand through Food Science, Food and Nutrition Conference, Academy of Nutrition and Dietetics, Nashville, 2016.

Controlling Lipid Oxidation to Improve Health, University of Montpellier, France, 2016.

Whole Grain Processing, Functional Components for Positive Food Attributes and Health, Whole Grain Summit, Portland, 2015

Lipid Oxidation in Low Moisture Food, Institute of Food Technology, 2015

Let's Chew the Fat (and Oils): Where Form, Function and Dietary Guidance Converge, Experimental Biology, San Diego, 2014

Can Processed Foods Contribute to a Healthy Diet, IFT Wellness Conference, Chicago, IL, 2013

Processed Foods Contributions to World Health, Department of Food Science, University of Arkansas, 2012.

Scientific Insights and Sharing the Fact about Fats, International Food Information Council, New York, NY 2011.

Increasing the Oxidative Stability of Bioactive Lipids by Nanolamination and Other Techniques, Jiangnan University, China, 2011

Rethinking oxidation in bulk oils: Role of physical structures. American Oil Chemist Society Lipid Oxidation and Quality Division Guest Lecture. 2010.

Taking trans fat our of the food supply: What are the alternatives? American Dietetic Association Webinar, 2010

Healthier meat products as functional foods. Plenary Lecture, International Conference on Meat Science and Technology, Jeju Island, South Korea, 2010.

Foods for Health and Wellness, The Future of Grains in Schools, University of Minnesota, 2010.

Lipid oxidation in foods, Plenary lecture, Latin American Conference for Fats and Oils, Rosario, Argentina, 2009

The evolution of processed foods and opportunities for improving health, Kansas State University Distinguished Lecturer, Manhattan, KS, 2009.

Fats in foods: Why they are there and what are our choices. American Dietetic's Association, Denver, Colorado, 2009.

Use of nanotechnology to deliver bioactive lipids into functional foods. Graduate Institute of Food Science and Technology of National Taiwan University. Taipei, Taiwan, 2008.

Colloidal systems for delivery of bioactive lipids into functional foods. International Conference on Nutraceuticals and Functional Foods. Taichung, Taiwan, 2008.

The Evolution of Processed Foods: Implications for the Food Scientist. IFT Annual Meeting, Anaheim, CA.

Delivery systems for integrating oxidatively stable omega 3's into foods. Long Chain Omega-3 Conference, OmegaPure, Houston, TX. 2008.

Decker, E.A. Understanding Rancidity in Complex Foods: How Physical Properties Impact Lipid Oxidation Chemistry. American Oil Chemical Society Stephan Chang Award. Seattle, WA, 2008.

Understanding the Chemistry of Lipid Oxidation in Emulsions. A Key to Developing Technologies for the Incorporation of Omega-3 Fatty Acids into Functional Foods. Plenary Lecture, VI Italian National Congress of Food Chemistry, Alba, Italy. 2007

Stabilization and Delivery of Bioactive Lipids (ω-3 Fatty Acids) Using Emulsion Technology. Emulsions Workshop, UMass Amherst. 2006

Omega-3 Fatty Acid Delivery Systems for Foods. Coca-Cola Co., Atlanta, GA.

Oxidation in Emulsions: Critical Issues and Current Challenges, Nestle', San Seplco, Italy

Inhibition of Lipid Oxidation by Coating Oil-in-Water Emulsions with Multiple Layers of Emulsifiers, International Society of Fat Research, Prague, Czech Republic.

Oxidation in Food Emulsions 1st International Congress of Antioxidant Methods, Orlando, FL.

Ability of Proteins and Peptides to Impact the Oxidation Kinetics of Omega-3 Fatty Acids in Oil-in-Water Emulsions, European Lipd Federation, Edinburgh, Scotland.

Control of Prooxidants to Increase the Oxidative Stability of Food Emulsions. IFT Short Course on Lipid Oxidation in Foods

Strategies for Producing Oxidatively Stable ω-3 Fatty Acids for Use in Functional Foods, International Society of Fat Research, Bordeaux, France

Impact of Fat on Human Health and Food Quality. IFT Annual Meeting

Control of Prooxidants to Increase the Oxidative Stability of Food Emulsions, Martek Biosciences

Strategies for Producing Oxidatively Stable ω-3 Fatty Acids for Use in Functional Foods, Kasesart Univerity, Bangkok, Thailand

Lipid Chemistry in Foods: Impact on Human Health and Food Quality, American Chemical Society Midwest Regional Meeting

The Biology and Chemistry of Omega-3 Fatty Acids: Challenges in Obtaining Our Nutritional Needs, Biology Department, Northeastern University, 2003.

Obtaining Dietary Omega-3 Fatty Acids through the Development of Functional Foods, Department of Agricultural, Food and Nutritional Sciences, University of Alberta, 2003.

Development of an w-3 Fatty Acid Nutritional Delivery System for Use in Functional Foods, Center of Nutritional Sciences, University of Kentucky, 2003

Impact of Nutrient Supplementation on Stability of Endogenous Food Components, New Food Based Approaches to Achieve Micronutrient Adequacy in Complementary Foods: Technological Aspects. USAID/WHO, Paris, France, 2002

Dietary Antioxidants: Our Key to Preventing Death by Oxidation? San Joaquin and Chicago Sections of IFT, 2001-2002

Prooxidative metals: Why where they are can dictate their reactivity. Institute of Food Technologists Annual Meeting, New Orleans, LA, 2001.

Impact of surfactant solubilization of phenolic antioxidants on lipid oxidation in oil-in-water emulsions. American Oil Chemist Society, Minneapolis, MN, 2001.

Lipid oxidation in emulsions and muscle foods. Hauzhong Agricultural University, Wuhan, China, 2001.

Influence of Physical Environment on the Activity of Phenolic Antioxidants. FASEB Summer Conference, 2001.

Where do meat and dairy products fit into a healthy diet. The secret of zoochemicals. Northern California, Magnolia and Bonnieville Sections of IFT, 2000-2001

Whole Grain Breakfast Cereals: A Potential Source of Dietary Antioxidants. American Dietetics Association, 2000.

Impact of Interfacial Membrane Properties of Oil-in-Water Emulsions on Lipid Oxidation Reactions. Danish Institute of Agricultural Science. 2000.

Antioxidant Properties of Carnosine. Linus Pauling Institute, Oregon State University, 2000.

The Relationship between the Properties of the Interfacial Region of Oil-in-Water Emulsions and Lipid Oxidation. Kraft Foods, Glenview, IL, 2000.

Antioxidants in Whole-Grain Ready-to-Eat Breakfast Cereals, Annual Meeting of the American Association of Cereal Chemists, Seattle, WA, 2000

Interactions between Muscle Components and Aldehydic Lipid Oxidation Products, Annual Meeting of the American Oil Chemists Society, Orlando, FL, 1999.

Iron-Catalyzed Lipid Oxidation in Dispersed Lipid Systems, Department of Food Science, Penn State University, University Park, PA, 1999.

Unique Fats and Fat Substitutes, Functional Food Strategies for the Food Industry, American Association of Cereal Chemists, Newport Beach, CA, 1999.

Functional Properties of Antioxidants in Foods, Best Foods, Englewood Cliffs, NJ, 1999.

Influence of the Emulsion Interface on Lipid Oxidation, Cultor Food Science, Ardsely, NY, 1999.

Impact of Emulsifiers on the Oxidative Stability of Lipid Dispersions High in Omega-3 Fatty Acids, Division of Agriculture and Food Chemistry, American Chemical Society, Anaheim, CA, 1999.

Dietary Strategies for Improving the Quality of Pork, National Pork Producers Council, Champaign, IL, 1999.

Endogenous Skeletal Muscle Antioxidants, Dietary Strategies for Improving Muscle-Based Food Products, Madrid Spain, 1998.

Manipulating the Prooxidative/Antioxidative Balance of Muscle Foods to Minimize Rancidity, Muscle Food Division Lectureship, Institute of Food Technologists, Atlanta, GA, 1998.

Mechanisms of Lipid Oxidation in Skeletal Muscle, Dept. of Food Science and Applied Microbiology, University of Saskatchewan, 1998.

TBA as an Indicies of Rancidity in Muscle Foods, Reciprocal Meat Conference, Storrs, CT, 1998.

Antioxidants and Health, Functional Foods Workshop, Cultor Food Science, Nice, France, 1998.

Exercise and the Oxidative Stability of Skeletal Muscle, International Life Science Inst. St. Petersburg, FL, 1998

Antioxidant Activities of Whey, International Whey Conference, Chicago, IL, 1997.

Conjugated Linoleic Acid: Chemistry and Antioxidant Activity. CLA Forum, Madison, WI, 1997.

Mechanisms of Proteinaceous Antioxidants, Natural Antioxidants Symposium, American Chemical Society, San Francisco, CA, 1997.

Antioxidants for Meat and Fish, Workshop on Food Lipid Stability, American Oil Chemists Society, Seattle, WA, 1997.

Lipid Oxidation and Antioxidant Protection, Kalsec/Nutrasweet Co., San Diego, CA, 1997

Emerging Antioxidants, Capitalizing on the Benefits of Natural Antioxidants in Nutrition, Health and Food, Dallas, Texas, 1997.

Factors Influencing the Oxidative Deterioration of Muscle Foods. Dept. Food Science, Cornell University, Ithaca, NY, 1996.

Lipids in Food Systems, Dept. Foods and Nutrition, Kansas State University, Manhattan, KA, 1996.

Antioxidant Mechanisms and Applications in Muscle Foods, Reciprocal Meat Conference, American Meat Science Association, Provo, UT, 1996.

Bioactivity of Carnosine, a Skeletal Muscle Dipeptide, Dept. of Nutrition, University of Massachusetts, 1996.

Conjugated Linoleic Acid in Dairy Products, Dairy Management Inc., Chicago, IL, 1996.

Factors Influencing Conjugated Linoleic Acid Concentrations in Foods, Harvard School of Public Health, Boston, MA, 1996.

Conjugated Linoleic Acid in Dairy and Meat Products, Hokkaido Bio-Industry Association, Sapporo, Japan, 1995.

Carnosine as a Natural Antioxidant in Foods, Department of Agricultural Chemistry, Kyoto University, Japan, 1995.

Factors Influencing Oxidative Reactions in Fish Skeletal Muscle, Department of Food Science, Tokyo Fisheries University, Japan, 1995.

New Food Ingredients and Pharmaceutical Foods, Nutrient Databank Conference, Buffalo, NY, 1995

Oxidative Processes in Mackerel Muscle, Atlantic Mackerel Workshop, National Marine Fisheries Service, Gloucester, MA, 1995.

Determination of Pyrroloquinoline Quinone in Dairy Foods, Dairyman Inc., Chicago, IL, 1994.

Altering the Nutritional Composition of Muscle Foods, Symposium on "The role of Muscle Foods in Health and the Molecular Basis of Disease", Institute of Food Technologist, Atlanta, GA, 1994.

The Physiological Role of Carnosine in Fish Muscle, National Marine Fisheries Lab, Gloucester, MA, 1994.

The Role of Carnosine in the Oxidative Stability of Skeletal Muscle, Dept. of Animal Science, University of Connecticut, 1994.

Water and Lipid-Soluble Antioxidants, International Life Science Institute, Nassau, Bahamas, 1994.

Nonnutritient Antioxidants, International Life Science Institute, Washington D.C., 1993.

Antioxidants in Oats and Other Grains, Opta Food Ingredients, Inc., Bedford, MA, 1993.

Control of Lipid Oxidation and Warmed-Over Flavor in Poultry, Kentucky Fried Chicken, Louisville, KY, 1993.

Extending the Shelf-life of Meat. Kentucky, Tennessee Meat Processors Association, Lexington, KY 1992.

Antioxidant Mechanism of Carnosine. Seminar Series for the University of Kentucky Multidisciplinary PhD Program in Nutritional Sciences. Lexington, KY, 1992.

Carnosine and Other Water-Soluble Proteinaceous Antioxidants. Dept. Food Science, University College, Cork, Ireland, 1991.

Formation of Conjugated Linoleic Acid in Processed Cheese. CLA in Dairy Foods and Their Nutritional Implications, National Dairy Council, Baltimore, MD, 1991.

Lipid Oxidation as it Relates to Heart Disease. Kentucky Heart Institute. Multidisciplinary Cardiovascular Research Forum, Lexington, KY, 1991.

Identification and Characterization of Water Soluble Antioxidants for Use as Food Additives. University of Kentucky Membrane Science Center Colloquium, 1990.

Popular Press Publications

Role of Antioxidant Enzymes in the Development of Oxidative Rancidity in Cooked and Salted Muscle Foods, Meat Focus International 5(9):50

Nonessential Dietary Antioxidants, Health Media Communications, 13(11):73.

Concentrations of the Anticarcinogen, Conjugated Linoleic Acid, in Processed Beef Products, Meat Focus International 3(2):61

Antioxidant Potential of Carnosine and Anserine, Meat Focus International 1(5):224.

Use of the Natural Dipeptide Carnosine to Prevent Lipid Oxidation in Pork, 1992, A Look to the Future, Where Marketing and Research Meet, National Livestock & Meat Board.

Natural Antioxidants, Research for a Difference, UK College of Agriculture, Co-Author Ellen Brightwell.

MSG: Friend or Foe, UK College of Agriculture News, Co-Author Ellen Brightwell.

Grants Funded, PRIMARY INVESTIGATOR:

Lipid Oxidation in Low Moisture Foods. Eric Decker (PI), D. Julian McClements (Co-PI) and Lili He (Co-PI) USDA National Institute of Food and Agriculture. $469,775, 01/01/2016 - 12/31/2019.

Fundamentals in Lipid Oxidation Chemistry, Kao Corporation, Eric Decker (co-PI), & D.J. McClements (co-PI), $136,060 (2014-2017)

Increasing the Oxidative Stability of Omega-3 Oils, DSM, Eric Decker (co-PI), & D.J. McClements (co-PI), $40,000 (2012)

Strategies for Retarding Citral Degradation in Beverage Emulsions, International Flavors and Fragrances, $47,100 (2007-2008). D.J. McClements (Co-PI) & E.A. Decker (Co-PI).

Encapsulation technologies for the stabilization of Omega-3 oils Eric Decker (co-PI), & D.J. McClements (co-PI), Wesfolk, $158,570, (2008-2009).

Role of Physical Structures in Food Oils on Lipid Oxidation, USDA National Research Initiative Competitive Grants Program, 9/1/07-8/31/10, $278,538.

Decreasing *trans* Fatty Acids in Soybean Oil Emulsions, Bunge Foods, $72,000, 2006

Oxidative Stability of Emulsified Omega-3 Fatty Acids. Cargill, $100,000, 2005.

Utilization of Emulsion Interface Engineering to Improve the Oxidative Stability of Food Emulsions: The Role of Antioxidant Proteins, USDA National Research Initiative Competitive Grants Program, 9/1/04-8/31/08, $304,000.

Oxidative deterioration of squid leading to discoloration during prolonged storage, Thailand Ministry of Education, $16,400, 9/1/04-3/31/06.

Stabilization of Citrus Flavors in Emulsions Systems, Kraft Foods, $40,000, 2003

Light Induced Discoloration of Beverages, Pepsi-Cola Company, $40,000, 2002.

Producing stable, value-added fish oil emulsions for use in functional foods. SK-NOAA, $105,899.

Efficacy of producing stable omega-3 fatty acid enhanced foods to improve human health, USDA-IFAFS, 9/15/01-9/14-05, $1,722,000.

The Role of Nitric Oxide Synthase and Peroxynitrite on the Oxidative Stability of Muscle Foods, USDA National Research Initiative Competitive Grants Program, 10/15/01-8/31/04, $185,000

Spectrophotometers for Food Science Laboratories, CFNR Instructional Development Grant, 2001, $1,900.

Impact of Emulsifiers on the Oxidative Stability of Lipid Dispersions, USDA National Research Initiative Competitive Grants Program, 9/1/99-8/31/02, $140,000

Antioxidant Potential of Carnosine, a Beef Dipeptide, National Cattlemen's Beef Association, 9/1/99-8/31/01, $46,272.

Mechanisms of Lipid Oxidation in Cooked Meats Containing Antioxidants, Cultor Food Science, 6/1/98-5/31/00, $6,000.

Production of a Carnosine and Anserine-Containing Antioxidant Extract from Surimi Wash Water, National Marine Fisheries Service/NOAA, 6/1/97-5/31/99, $82,151.

Development of Model Systems to Evaluate Carnosine-Myoglobin Interactions. USDA National Needs Graduate Grant Programs, 1997, $3,000

Evaluation of Factors Influencing the Antioxidant Activity of Carnosine and Related Peptides, USDA National Research Initiative Competitive Grants Program, 11/1/96-3/30/99, $116,767.

Assessing the Relationship Between Antioxidants and Exercise by Studying Oxidative Processes in Muscle Biopsies, International Life Science Institute Future Leader Award, 6/1/96-5/31/98, $30,000.

Production of a Carnosine-Containing Antioxidant Extract from Mechanically Separated Pork, National Livestock and Meat Board, 9/1/95-8/31/97, $35,300

Isolation and Characterization of Water-Soluble Antioxidants in Milk, Dairyman Inc. 9/1/95-3/30/97, $80,000.

Identification of Oxidation Products of the Skeletal Muscle Antioxidants, Anserine and Carnosine, Healy Endowment Grant, University of Massachusetts, 9/1/95-8/31/96, $4,800

Development of Methodology to Measure the Oxidative Status of Skeletal Muscle Biopsies, Roche Vitamins & Fine Chemicals, 6/1/95-5/31/96, $12,000

Development of Training Workshops for Teachers of Food and Health Science, Massachusetts Agriculture in the Classroom, 1/1/95-12/31/95, $3,500

Development of Food Antioxidant Screening Tests, Pfizer Food Science Group, 6/1/94-5/31/95, $11,000

Sodium Electrode System for Food Science Laboratories, CFNR Instructional Development Grant, 1995, $500.

Identification and Characterization of Whey Antioxidants, University of Massachusetts Faculty Research Grant, 2/1/94-1/31/95, $4,700

Evaluation of Pfizer Antioxidants, Pfizer Food Science Group, 10/93-9/94, $39,064

Increasing Endogenous Carnosine Concentrations in the Skeletal Muscle of Pork by Dietary Supplementation, National Pork Producers Council, 10/1/93-9/31/94, $16,200

Antioxidant Activity of Modified Soybean Lecithin, Kentucky Soybean Association, 9/1/93-8/31/94, $12,000
Modification of Beef Tallow to Decrease the Concentration of Saturated Fatty Acids, Kentucky Beef Cattle Association, 11/1/92-10/31/93, $10,000

Evaluation of Conjugated Linoleic Acid Content in Milk Fat and Dairy Products, National Dairy Council 6/1/92-5/31/94, $76,780

Modification of Beef Fat to Increase the Concentration of the Anticarcinogen, Conjugated Linoleic Acid, National Livestock and Meat Board, 3/1/92-8/30/93, $21,334

Preservation of the Fresh Flavor or Pork Using Carnosine in Combination with Other Natural Antioxidants, National Livestock and Meat Board, 3/1/92-8/30/93, $17,500

Isolation and Characterization of an Antioxidant Peptide From Acid Whey Permeate, University of Kentucky Graduate School, 1991, $2,993

Extraction of Anserine & Carnosine From Beef for Use as a Food Additive, Kentucky Beef Cattle Association, 3/1/91-2/28/92, $15,000

Characterization and Identification of Toxic Lipids and Lipid Oxidation Products in Foods and Biological Tissue, University of Kentucky, 1991, $32,230

Identification of Protein-Bound Fe in Muscle Foods Which Promotes Lipid Oxidation, USDA, USA-Ireland Cooperative Research Program, 1991, $4,000

Determination of the Antioxidant Mechanism of Carnosine, Biomedical Research Support Grant, 1/1/90-12/31/90, $5,000

Effect of Processing Conditions and Food Additives on the Formation of Conjugated Linoleic Acid in Processed Cheese, National Dairy Research and Promotion Board, 1/1/90- 2/31/90, $32,200

Use of the Natural Dipeptide, Carnosine, to Prevent Lipid Oxidation in Pork, National Livestock and Meat Board, 1/1/90-12/31/90, $16,000

Use of the Dipeptides, Anserine and Carnosine, as Food Antioxidants, University of Kentucky Research Committee, 1989, $1,800

Use of Natural Antioxidants in Blood Plasma to Control Lipid Oxidation in Food, University of Kentucky Graduate School, 11/1/88-10/31/89, $3,270

Use of Natural Antioxidants From Beef Plasma to Control Lipid Oxidation in Food, American Meat Protein Corporation, 1/1/90-12/31/90, $12,400

Total Funds Awarded as a PI: $4,591,003

Grants Funded, CO-INVESTIGATOR

Vitamins B1 and K Degradation in Spaceflight Foods: Establishment of Prediction Models and Prevention Strategies, H. Xiao (PI), Peleg, M., Decker, E.A., He, L., McCelements, D.J. (Co-PIs). NASA. $982,000, 8/10/2014 - 8/9/2017.

Preventing Spoilage of Packaged Foods by Non-Migratory Antimicrobial Active Packaging. Julie M. Goddard (PI), Eric Decker (Co-PI), Lynne McLandsborough (PI). USDA National Institute of Food and Agriculture. $498,500, 08/01/2014 - 72/31/2017.

Development of Nanoemulsion-based Delivery Systems for Functional Lipids McClements DJ (PI); Decker EA USDA National Institute of Food and Agriculture. $490,000, 08/01/2013 - 8/1/2016.

Influence of Nanoparticle Characteristics on Fate, Bioavailability, and Toxicity of Food-Grade Nanoemulsions Xiao, H. (PI); McClements DJ; Decker EA USDA National Institute of Food and Agriculture. $490,000, 01/01/2011 - 12/31/2014.

Improving nutritional quality and shelf life of foods by design of active packaging that inhibits metal-ion promoted degradation of bioactive compounds. Julie M. Goddard (PI), Eric Decker (Co-PI). USDA National Institute of Food and Agriculture. $498,809, 01/01/2012 - 12/31/2015

Food Science Graduate Training in Food and Health with Emphasis on Ingredient Delivery Systems and Food Policy, H. Xiao (PI), Y. Park D.J. McClements and E.A. Decker (Co-PIs). USDA National Needs Program. $234,000, 1/02/2010 - 12/31/2014.

Is Smaller Better? Structure and Phase Behavior Effects on the Efficacy of Emulsion-Based Delivery Systems J. Coupland (PI), R. Elias, D. J. McClements, E.A. Decker (CoPIs). Agriculture and Food Research Initiative, USDA, $449,367, 1/02/2010 - 12/31/2014

Designing novel food functionality through controlled biopolymenr phase separation. D.J. McClements (PI), E.A. Decker (Co-PI), J. Weiss (Co-PI). National Research Initiative Competitive Grants Program. United States Department of Agriculture, $362,424 (9/1/08-8/31/12).

Design of Nano-laminated coatings to control bioavailability of lipophilic food components. D.J. McClements (PI), E.A. Decker (Co-PI), J. Weiss (Co-PI). National Research Initiative Competitive Grants Program. United States Department of Agriculture, $355,000 (9/1/08-8/31/12).

Encapsulation of food colorants in liposomes to improve stability and modulate their interactions with light. Weiss (PI), D.J. McClements (Co-PI), E.A. Decker (Co-PI), J. Sensient Technologies, $55,045 2008-2009.

New Technology for Encapsulation of Emulsified Lipids in Food Beverages. McClements, D.J. (PI), Decker, E.A. and Weiss, J. UMass Commercial Ventures and Intellectual Properties Technology Development Fund. $30,000, 2007

Food-Based Solutions to Health and Wellness Proposal for Academic-Industry Strategic Alliance. Weiss, J. (PI), McClements, D.J., Decker E.A. and Park,Y. University of Massachusetts Science and Technology Initiatives Fund. $100,000, 2005.

Utilization of Interfacial Engineering to Improve Emulsion Stability. D.J. McClements (PI) and Decker E.A. USDA-National Research Initiative, Competitive Grants Program, $335,000 (2005-2009).

Seafood Safety and Health, PI: R.E. Levin, Dept. of Food Science, UMass, USDA, 2002-2005, $1,175,358.

Distribution of Lipid-soluble Antioxidants in Muscle Lipids and Effect on Stability. PI. H.O. Hultin, Dept. Food Sci, UMass, USDA-NRI, 2000-2003, $151,000.

Improvement of Oxidative Stability of Encapsulated Fish Oil in Food Powders, PI. Pavinee Chinachoti, Dept. Food Science, UMass, NOAA-SK, 2000-2002, $92,073

Acquisition of High Performance Liquid Chromatograph (HPLC) for Mass Spectrometer Sample Introduction. PI: Uden, P.C., Chemistry Dept., Faculty Research Grant, UMass, 1999, $10,000.

International Symposium on Dietary Strategies for Improving Animal-Based Food Products, Co-PI, Cameron Faustman, University of Connecticut, OCED Cooperative Research Program, 1998, $20,000.

Stabilization of Spray-Dried Dairy-Based Creamers, Dairyman Inc., PI: Pavinee Chinachoti, Dept. Food Science, UMass (PI), 1/1/96-12/31/99, $120,000.

Commercialization of an Ultrasonic Device for Measuring the Fat Content of Mackerel, National Marine Fisheries Service/NOAA, David J. McClements, Dept. Food Science, UMass (PI), 6/1/97-12/31/98, $68,758

Development of a Rapid Nondestructive Technique to Measure the Fat Content of Mackerel, National Marine Fisheries Service/NOAA, David J. McClements, Dept. Food Science, UMass (PI), 9/1/95-2/28/97, $52,000

National Needs Fellowships in Food Science, USDA, Robert Levin, Dept. Food Science, UMass (PI), 9/1/95-8/31/98, $108,000

Fat-Mediated Endothelial Injury: Implications in Atherosclerosis, National Dairy Council, 5/1/94-4/30/95,

Bernhard Hennig, Dept. of Nutr. and Food Science (PI), $37,099

Nutritional Requirements and Production of Hybrid Striped Bass in Kentucky, United States Department of Agriculture, 5/93-12/95, Carl Webster, Kentucky State University (PI), $105,320

Analysis of Glycoproteins in Cultured Endothelial Cells with HPLC, University of Kentucky Research Equipment Competition, 1992, Bernhard Hennig, Dept. of Nutrition and Food Science (PI), $31,515

Measurement of Food Texture with an Instron Universal Testing Instrument, University of Kentucky Research Equipment Competition, 1992, Youling Xiong, Dept. of Animal Sciences (PI), $37,678

Toxicity of Lipids and Lipid Oxidation Products, University of Kentucky Research Equipment Competition 1992, Gilbert Boissonneault, Dept. of Clinical Sciences (PI), $8,845

Improving Beef Heart Surimi Functionality through Control of Oxidation, Kentucky Beef Cattle Association, 6/1/92-5/31-93, Youling Xiong, Dept. of Animal Sciences (PI), $17,050

Anti-Atherogenic Potential of Conjugated Linoleic Acid, University of Kentucky Multidisciplinary Nutrition Program, 1992, Gilbert A. Boissonneault, Dept. of Clinical Sciences (PI), $4,000

Influence of Cu on Inflammation and Antioxidant Activity in the Bovine Udder, United States Department of Agriculture, 1/1/92-6/30/94, Robert Harmon, Dept. of Animal Sciences (PI), $123,608

Fat-Mediated Endothelial Injury: Implications in Atherosclerosis, National Dairy Council, 1/1/91-12/31/92, Bernhard Hennig, Dept. of Nutrition and Food Science, $84,836

Dietary Carnosine and Breast Cancer Risk: Protection by Red Meats?, National Livestock and Meat Board, 3/1/91-2/28/92, Gilbert A. Boissonneault, Dept. of Clinical Sciences (PI), $29,000

Type of Fat as Related to Endothelial Injury: Implications in Atherosclerosis, National Livestock and Meat Board 6/1/89-6/30/91, Bernard Hennig, Dept. of Nutrition and Food Science (PI), $48,554

Lipid Mediated Endothelial Injury, National Institutes of Health, 9/30/90-9/29/95, Bernard Hennig, Dept. of Nutrition and Food Science (PI), $448,074

Fish Oil, Vitamin E and Macrophage Lipoprotein Uptake, American Heart Association, 7/1/90-6/30/92, Gilbert A. Boissonneault, Dept. of Clinical Sciences (PI), $39,895

Enzyme Tenderization of Beef, Kentucky Beef Cattle Association, 10/1/90-9/30/91, Warrie J. Means, Dept. of Animal Sciences (PI), $15,000

Total Funds Awarded as a Co-PI: **$7,714,807**

Total Grant Funds Awarded: ***$12,305,810***

Teaching and Mentorship Experience

Classroom Teaching

University of Massachusetts

Foods and Health (Fd. Sci. 101), 1993 to 2008

Food Chemistry (Fd. Sci. 541), 1994 to 2010

Food Chemistry Lab (Fd. Sci. 544), 1997 to 2010

Food Ethics (Fd. Sci. 563), 2010 to Present

Food Lipids (Fd. Sci. 741), 1994 to Present

University of Kentucky

Food Chemistry (FSC 534), 1989 to 1993

Food Analysis (FSC 335), 1989 to 1992

Food Lipids (FSC 780), 1992

Advanced Meat Science (FSC 630), 1990

Introduction to Food Science (GEN 107), 1990-1991

Editorial Boards

- Food and Function (2010-present)
- Current Trends in Food Science and Technology (2013-present)
- Journal of Agriculture and Food Science (2014-present)
- Meat Science (1999-Present)
- Journal of Muscle Foods (1998-2010)
- Journal of Food Protection (2001-Present)
- Food Science and Technology Bulletin: Functional Foods (2007-Present)

Selected Professional Recognitions and National Committee Assignments:

- Chair, Food and Nutrition Science Solutions Task Force, Institute of Food Technologist (2016)
- Member, Food and Nutrition Science Solutions Task Force, Institute of Food Technologist (2013-2015)
- Member, Food and Drug Administration Food Advisory Committee (2007-2010)
- Member, Institute of Medicine of the National Academy of Science Food Forum (2007-2012)
- Committee Member, National Academy of Science, Nutritional Standards for Foods in Schools
- Secretary/Chair-Elect/Chair, Food Chemistry Division, Institute of Food Technologists (2002-2005).
- Chair, Peer-Review Journal Sub-Committee, Institute of Food Technologists (2003-2005)
- Member, USDA-CSREES Review Team for Dept. of Food Science, Louisiana State University (2003)
- Member, Communication Management Committee, Institute of Food Technologists (2003-2005)
- Research Committee, Institute of Food Technologists (1999-2002)
- Panel Leader, USDA-NRI Food Characterization Grant Review Panel (2002-2003)
- Contributing Editor, Nutrition Reviews (1994-Present)
- Panel Member, USDA-NRI Food Characterization Grant Review Panel (2001-2002)
- Associate Editor, Current Protocols in Food Analytical Chemistry, John Wiley & Sons (1998-Present)
- Program Committee, American Meat Science Association (1998-2000)

- Advisory Panel Member for TSE in Food Lipids, Food and Drug Administration (1998)
- Advisory Board for International Collaborative Doctoral Degreee Program, Thailand (1999-present)
- Advisory Panel Member for TSE in Gelatin, Food and Drug Administration (1997-1998)
- Grant Review Committee for Conjugated Linoleic Acid in Beef, National Cattlemen Association (1997-1999)
- Judge, Student Paper Competition, Phi Tau Sigma (1997)
- Member, Sustaining Member Committee, American Meat Science Association (1997-present)
- Member, Distinguished Research Award Committee, American Meat Science Association (1997)
- Chairman, Muscle Food Division, IFT (1994-1995)
- Member and Chair, Committee Sections and Divisions, IFT (1995-1998)
- Judge, Graduate Research Poster Competition, IFT (1996)
- Member, American Meat Science Assoc. Biochemistry Program Committee (1995)
- Chairman for Graduate Poster Competition, American Meat Science Assoc. (1995)
- Member, EPA Dioxin Reassessment Working Group, IFT (1994-1995)
- Judge, Graduate Poster Competition, American Meat Science Assoc. (1994)
- Member, Reciprocation Fair Program Committee, American Meat Science Assoc. (1994)
- Chair-Elect, Muscle Food Division, IFT (1993-1994)
- Session Chairman, Muscle Food Processing, Institute of Food Technologist (1992)
- Co-Chairman, Local Arrangement Committee, N. American Membrane Society Fifth Annual Meeting (1992)
- Member, Supelco Research Award Committee, American Oil Chemist Society (1992-1993)
- Member, Annual Meeting Program Committee, Institute of Food Technologist (1992-1995)
- Chairman, Bluegrass Section, Institute of Food Technologist (1991-1993)
- Member, Muscle Biochemistry Committee, American Meat Science Assoc. (1991)
- Secretary, Bluegrass Section Institute of Food Technologist (1989-1990)

Membership in Professional Organizations

Institute of Food Technologists
American Chemical Society
American Oil Chemist Society
Phi Tau Sigma