

CURRICULUM VITAE

Michael L. Dunn, Ph.D, CFS

Professor of Food Science (Current Position)

Department of Nutrition, Dietetics & Food Science
Brigham Young University
S-221 Eyring Science Center
Provo, UT 84602

EDUCATION:

1996 Ph.D., Food Science, Cornell Univ, Ithaca, NY (Minors: Microbiology, Marketing)
1989 M.S., Food Science, Brigham Young University, Provo, UT
1987 B.S., Food Science, Brigham Young University, Provo, UT

Additional Training

2016 Preventive Controls for Human Food PCQI Training, IFT/FSPCA
2016 Genesis R&D Food Labeling Training, ESHA Research
2006 Statistical Process Control for the Poultry & Food Industry, Univ. of Georgia
1999 Finance and Accounting for Nonfinancial Managers, Cornell University
1998 Fats, Oils, and Spreads Short Course, Texas A&M
1997 Nutraceuticals & Functional Foods Short Course, Texas A&M

LANGUAGE PROFICIENCY: English (Native), Spanish (Proficient)

PROFESSIONAL EXPERIENCE:

Brigham Young University, Provo, UT

2015 – Present Professor, Food Science
2008 – 2016 Chair, Department of Nutrition, Dietetics, & Food Science
2003 – 2015 Associate Professor, Food Science

International Food Network, Inc. Ithaca, NY

2002 – 2003 Technical Director
1997 – 1999 Group Leader, Research & Development
1995 – 1997 Project Leader, Research & Development
1993 – 1995 Food Scientist

International Food Network, Ltd., Reading, England

1999 – 2002 Managing Director

SOCIETY MEMBERSHIPS (previous memberships in italics):

Institute of Food Technologists
AACC International (formerly American Association of Cereal Chemists)
American Society for Nutrition
American Oil Chemists' Society

HONORS AND AWARDS:

2017-2020	Thomas L. Martin Professorship, BYU College of Life Sciences
2016	March of Dimes Agnes Higgins Award
2000, 1996	President's Award, International Food Network
1992	G. Mocquot Award for Graduate Research, Cornell Univ., Food Sci. Dept.
1991	Herzog Graduate Research Award, Cornell Univ. Food Sci. Dept.
1989	Outstanding Graduate Thesis, College of Biology & Agriculture, BYU

SERVICE AND ADVISORY RESPONSIBILITIES:

Brigham Young University

2016 – Present	Malawi Internship Co-Advisor
2008 – 2016	Department Chair
2013 – Present	Faculty Advisor to Food Science Club
2011 – 2014	Department Chairs Coordinating Council – BYU
2008 – Present	College Chromatography Center – Faculty Coordinator
2005 – Present	Student Product Development Team Advisor
2005 – 2008	NDFS Curriculum Committee Chair
2005 – 2008	College of Life Sciences Research Committee - member
2005 – 2008	College of Life Sciences Curriculum Committee – member
2003 – 2008	Student College Bowl Team Advisor
2003 – 2008	NDFS Awards and Scholarships Committee
2003 – Present	Food Science Advisory Committee to LDS Welfare Services
2003 – Present	NDFS Food Science Alumni Event Planning Committee

Institute of Food Technologists

2010-present	Board Member – Bonneville Section
2008- 2016	Council of Food Science Administrators – Member
2001-2003	Board Member – British Section

Association of Nutrition Departments and Programs

2013- 2016	Board Member
2015 – 2016	Secretary

Cornell University, Ithaca, NY – Food Science Department

2002-2003	Industry Advisory Council
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University of Reading, Reading, England – Department of Food & Biosciences

1999-2002	Industrial Advisory Board
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TEACHING RESPONSIBILITIES:

Brigham Young University:

NDFS 191 (1 Cr)	Intro. to Food Science (Winter; 2004, 2014)
NDFS 250 (3 Cr)	Essentials of Food Science (Winter or Spring; 2012 – present)
NDFS 251 (1 Cr)	Essentials of Food Science Laboratory (Fall, Winter; 2003 – present)

NDFS 462 (3 Cr) Food Regulations and Quality Assurance (Fall; 2003 – present)
NDFS 465 (3 Cr) Food Product Development (Winter; 2003 – present)
NDFS 656 (3 Cr) Food Lipids (Alt. Spring; 2005 – present)

RESEARCH FUNDING:

Novel crop utilization. General Mills, Inc. May 2016. \$65,000.

Effect of acid whey marination on chemical, physical, and sensory properties of beef round. Western Dairy Research Center BUILD Dairy Program. Sep 2015. \$36,000

Folic acid stability in corn masa flour and related end products. March of Dimes Foundation. Dec 2014 \$42,000.

Micronutrient Fortification Program for Providers of Soy Milk to Needy Children in Ecuador. Heiner Foundation. Sep 2014. \$11,000

Dietary formulations promoting growth of beneficial gut bacteria. Hawley Family Foundation. Jan 2013. \$10,000

Microbial Degradation of Folic Acid in Micronutrient Fortified Corn Masa. M.L. Dunn and F.M. Steele BYU Mentoring Environment Grant. Jan. 2011-Dec 2012. \$20,000

Nutritional Enhancement of Complementary Foods for Developing Nations. M.L. Dunn. International Food Network/Sensient Technologies Foundation. Mar 2007. \$20,000

Food Aid Quality Enhancement. O.A. Pike, F.M. Steele, L.V. Ogden, and M.L. Dunn. SUSTAIN; Jan 2006 – Dec 2006. \$45,590

Effect of end-user preparation methods on micronutrient delivery of food aid commodities. O.A. Pike, F.M. Steele, L.V. Ogden, and M.L. Dunn. BYU Mentoring Environment Grant; Feb 2005-Dec 2006. \$15,000

Effect of end-user preparation methods on micronutrient delivery of food aid commodities **(Field Study)**. O.A. Pike, F.M. Steele, L.V. Ogden, and M.L. Dunn. College of Biology and Agriculture Student Mentoring Fund; Jun 2005-Dec 2006. \$20,000

Nutrient stability and consumer acceptability of vitamin and mineral fortified nixtamal tortillas. M.L. Dunn. BYU Mentoring Environment Grant; Feb 2005 – Dec 2006. \$15,000.

Technological process development for micronutrient fortification of traditional tortillas. M.L. Dunn. SUSTAIN. May 2004-Dec 2006. \$84,904.

PUBLICATIONS:

1. R. Phillips, O. A. Pike, D.L. Eggett, and **M. L. Dunn**. 2017. Folate Stability in Folic Acid Enriched Corn Masa Flour, Tortillas, and Tortilla Chips Over the Expected Shelf-life. *Cereal Chem.* (In Press)
2. L.K. Jefferies, J. L.oucks, **M.L. Dunn**, F.M. Steele, and D.L. Eggett. 2017. Effect of Monetary Reward and Food Type on Accuracy and Assessment Time of Untrained Sensory Panelists in Triangle Tests. *Food Quality and Preference* 56A: 119-125.
3. A.R. Sloan, **M.L. Dunn**, L.K. Jefferies, O.A. Pike, S. N. Nielsen, and F.M. Steele. 2016. Effect of water activity and packaging material on the quality of dehydrated taro (*Colocasia esculenta* (L.) Schott) slices during accelerated storage. *Int. J Food Sci.* DOI: 10.1155/2016/9860139
4. S.J. Adolphson, **M.L. Dunn**, S.Nielsen-Barrows, D.L. Eggett, F.M. Steele. 2016. Evaluation of Bacterial Effects on Folic Acid Loss in Fortified, Nixtamalized Corn Masa. *Cereal Chem* 93(5): 508-512.
5. J. Fudge, **M.L. Dunn**, O.A. Pike, R.A. Robison, F.M. Steele. 2016. The isolation and identification of *Pantoea dispersa* strain JFS as a non-pathogenic surrogate for *Salmonella* Typhimurium phage type 42 in flour. *Int. J Food Micro* 291: 1-6.
6. A.B. Kurzer, **M.L. Dunn**, O.A. Pike, D.L. Eggett, and L.K. Jefferies. 2014. Antioxidant effects on retinyl palmitate stability and isomerization in nonfat dry milk during thermally accelerated storage. *Int. Dairy J.* 35(2): 111-115.
7. **Michael L. Dunn**, Vijaya Jain, and Barbara P. Klein. 2013. Stability of key micronutrients added to fortified maize flours and corn meal. *Annals of New York Academy of Science.* DOI: 10.1111/nyas.12310 (Commissioned paper by World Health Organization).
8. R.H. Taylor, **M.L. Dunn**, L.V. Ogden, L.K. Jefferies, D.L. Eggett, F.M. Steele. 2013. Conditions associated with *Clostridium sporogenes* growth as a surrogate for *Clostridium botulinum* in nonthermally processed canned butter. *J. Dairy Science* 96(5): 2754-2764.
9. Adolphson, Stephen J., **Dunn, Michael L.**, Jefferies, Laura K., Steele, Frost M. 2013. Isolation and Characterization of the Microflora of Nixtamalized Corn Masa, *International Journal of Food Microbiology*, doi: 10.1016/j.ijfoodmicro.2013.05.010
10. **Dunn, M.L.** 2013. Fortified Humanitarian Food-Aid Commodities. In, "Handbook of Food Fortification and Health". Vol. 1. Springer, New York. V.R. Preedy, R. Srirajakanthan, V.B. Patel, Eds., pp. 31-46.
11. Devin J. Rose, Lynn V. Ogden, **Michael L. Dunn**, Rachel G. Jamison, Michelle A. Lloyd, and Oscar A. Pike. 2011. Quality and Sensory Characteristics of Hard Red Wheat after Residential Storage for up to 32 Years. *J Food Sci* 76(1): S8-S13.
12. Horner TW, **Dunn ML**, Eggett D, Ogden LV. 2011. beta-Galactosidase activity of commercial lactase samples in raw and pasteurized milk at refrigerated temperatures. *Journal of Dairy Science.* 94(7) 3242-3249.
13. J.S. Chapman, F.M. Steele, D.L. Eggett, N.P. Johnston, **M.L. Dunn**. 2010. Stability of Native Folate and Added Folic Acid Stability in Micronutrient Fortified Corn Masa and Tortillas. *Cereal Chem* 87(5):434-438.
14. L. E. Fleige, W. R. Moore, P. J. Garlick, S. P. Murphy, E. H. Turner, **M. L. Dunn**, B. van Lengerich, F. T. Orthofer, S. E. Schaefer. 2010. Recommendations for optimization of fortified and blended food aid products from the United States. *Nutrition Reviews* 68(5):290-315.

15. J.P. Rowe, L.V. Ogden, O.A. Pike, F.M. Steele, and **M.L. Dunn**. 2009. Effect of End-User Preparation Methods on Vitamin Content of Fortified Humanitarian Food-Aid Commodities. *J. Food Composition and Analysis* 22(1): 33-37.
16. Black, C.T., Pahulu, H.F., and **Dunn, M.L.** 2009. Effect of Preparation Method on Viscosity and Energy Density of Fortified Humanitarian Food-Aid Commodities. *Int J Food Sci and Nutr* 60:2 (S7):219-228.
17. Russon, J.K., **Dunn, M.L.** and Steele, F.M. 2009. Optimization of a Convective Air Flow Solar Food Dryer. *Int J Food Eng.* 5(1): 8.
18. Colyar, J.M., Eggett, D.L., Steele, F.M., **Dunn, M.L.**, Ogden, L.V. 2009. Sensitivity Comparison of Sequential Monadic and Side-by-Side Presentation Protocols in Consumer Acceptance Testing. *J. Food Sci* 74(7): S322-S327.
19. **Dunn, M.L.**, Serna, S.S.O, Sanchez-Hernandez, D. and Griffin, R.W. 2008. Commercial Evaluation of a Continuous Micronutrient Fortification Process for Nixtamal Tortillas. *Cereal Chem* 85(6):746–752.
20. Richins, A. T., Burton, K. E., Pahulu, H. F. Jefferies, L, and **Dunn, M. L.** 2008. Effect of iron source on color and appearance of micronutrient-fortified corn flour tortillas. *Cereal Chem* 85(4): 561-565.
21. Burton, K.E., Steele, F.M., Jefferies, L., Pike, O.A., and **Dunn, M.L.** 2008. Effect of micronutrient fortification on nutritional and other properties of nixtamal tortillas. *Cereal Chem* 85(1): 70-75.
22. Rowe, J.P., Brodegard, W.C., Pike, O.A., Steele, F.M., and **Dunn, M.L.** 2008. Storage, preparation, and usage of fortified food aid in the diet of Guatemalan, Ugandan, and Malawian beneficiaries: A field study report. *Food and Nutrition Bulletin* 29(3), 213-220.
23. Rose D.J., Ogden L.V., **Dunn M.L.**, and Pike O.A. 2008. Enhanced lipid stability in whole wheat flour by lipase inactivation and antioxidant retention. *Cereal Chem.* 85(2): 218-223
24. Merrill, L.I., Pike, O.A, Ogden, L. V. and **Dunn, M.L.** 2008. Oxidative Stability of Conventional and High-Oleic Vegetable Oils with Added Antioxidants. *J Am Oil Chem Soc.* 85(8): 771-776.
25. **M.L. Dunn**, S.O. Serna-Saldivar, and E.H. Turner. 2007. Industrial Approaches to Micronutrient Fortification of Traditional Nixtamal Tortillas. *Cereal Foods World* 52(5): 240-248.
26. H.F. Pahulu, R.T. Davidson, **M.L. Dunn**, L.V. Ogden, F.M. Steele, and O.A. Pike. 2007. Change in Mutagenicity in White Rice after Accelerated and Long-Term Storage. *J Food Sci* 72(2):C126-C133
27. Christensen, Z.T., L.V. Ogden, **M.L. Dunn**, and D.L. Eggett. 2006. Multiple Comparison Procedures for Analysis of Ranked Data. *J. Food Sci.*71(2):S132-S143
28. **M.L. Dunn** and L.V. Ogden. 1991. Method of Identifying the Batch of Origin in Semi-Continuous Cheese Making Processes. *J. Dairy Sci.* 74 (7) 2042.

TECHNICAL AND INVITED PRESENTATIONS:

*Indicates Student

- Dunn, M.L.** 2016. Food Fortification as a Public Health Intervention: Are We There Yet? Agnes Higgins Award Lecture. APHA Annual Meeting. Denver, CO
- Fudge, J.R.* , **Dunn, M. L.**, and F.M. Steele. 2015. The lethality of a commercial batch heating

- process on *Pantoea dispersa*, a surrogate for *Salmonella*, in flour. AACC International Annual Meeting. Minneapolis, MN
- Dunn, M.L.** 2013. Micronutrient Fortification of Fresh Masa. 5th International Congress of Nixtamalization. Monterrey, Mexico.
- Dunn, M.L.** Jain, V., Klein, B.P. 2013. Stability of key micronutrients in fortified maize flours and corn meal. World Health Organization Consultation: Technical considerations for maize flour and corn meal fortification in public health. New York, NY.
- Dunn, M.L.** 2013. Current U.S. Food Trends and Consumer Health. International Forum on Microbiome and Health. Shanghai, China.
- Dunn, M.L.** 2012. Micronutrient Fortification of Foods. Institute of Food Technologists. Bonneville Section. Salt Lake City, UT.
- Engstrom, E.E.*, Doblado-Maldonado, A.F.*, Rose, D.J., **Dunn, M.L.** 2012. Changes in lipids and selected B vitamins in whole wheat flour during 1 y of storage. AACC International Annual Meeting. Hollywood, FL
- Steele, F.M., Adolphson, S.A.*, **Dunn, M.L.**, Lloyd, M.A. 2012. Microflora of nixtamalized corn masa. Institute of Food Technologists. Bonneville Section. Salt Lake City, UT.
- Chapman, J.S.*, Engstrom, E.E.*, Haight, D.L.*, Pang, S.*, **Dunn, M.L.** 2011. Folate content of commercially produced corn and wheat tortillas purchased from retail outlets in the Western United States. American Association of Cereal Chemists International Annual Meeting. Palm Springs, CA.
- Dunn, M.L.** 2011. Soy Fortified Food Aid: Formulation, Usage, and Stability. International Soybean Program 2011 Short Course. Urbana-Champaign, IL.
- Dunn, M.L.** 2011. Micronutrient Enrichment of Traditional Staple Foods: A tortilla case study. Global Family Health Conference. BYU/PAHO. Provo, UT.
- Dunn, M.L.** 2010. Soy Fortified Food Aid: Formulation, Usage, and Stability. International Soybean Program 2010 Short Course. Urbana-Champaign, IL.
- Dunn, M.L.** 2010. Contract Manufacturing for Industry & Academia. University Creamery Managers Association. Provo, UT.
- Dunn, M.L.** 2009. A Commercial Process for Micronutrient Fortification of Nixtamal Tortillas. XIV International Symposium on Food Engineering. Queretaro, Mexico.
- Dunn, M.L.**, Serna, S.S.O., Sanchez-Hernandez, D., Griffin, R.W. 2008. A Commercial Process for Micronutrient Fortification of Nixtamal Tortillas. AACC International Annual Meeting. Honolulu, HI.
- Lengerich, B.V., **Dunn, M.L.** 2008. Technologies for Improvement of Food Aid Commodities. SUSTAIN/USAID Food Aid Conference: Food Aid Product Optimization to Enhance Nutrition. Washington D.C.
- Dunn, M.L.**, Black C.T.* 2008. Energy Density and Viscosity of Corn Soy Blend Used for Complementary & Supplementary Feeding. SUSTAIN/USAID Food Aid Conference: Food Aid Product Optimization to Enhance Nutrition. Washington D.C.
- Colyar, D.*, **Dunn, M.L.** 2008. Vitamin Stability in Fortified Blended Foods During Preparation & Cooking. SUSTAIN/USAID Food Aid Conference: Food Aid Product Optimization to Enhance Nutrition. Washington D.C.
- Dunn, M.L.** 2007. Fortified Blended Foods in Complementary Feeding: Viscosity and Energy Density. SUSTAIN/USAID Food Aid Quality Enhancement Conference. Washington D.C.
- Dunn, M.L.**, Serna-Saldivar, S.O. 2007. Proceso Comercial para la Fortificacion de Tortillas de

- Nixtamal con Micronutrientes (Commercial Process for Micronutrient Fortification of Nixtamal Tortillas). SUSTAIN-INSP Tortilla Fortification Conference. Mexico City, Mexico.
- Dunn, M.L.** 2007. Overview of Food Labeling Regulations. Utah Specialty Foods Association. Salt Lake City, Utah.
- Johnston, N.P., Jefferies, L.K., Butler, A.*, Vogeler, K.*, **Dunn, M.L.**, Aduviri, G.*, and Bonifacio, A. 2007. The sensory acceptance and ranking of calcium fortified cookies based on the Andean grains quinoa (*Chenopodium quinoa* Willd.), ca?ahua (*Chenopodium pallidicaule* Allen), and amaranth (*Amarantus caudatus*) in the USA and Bolivia. Institute of Food Technologists Annual Meeting. Chicago, IL.
- Johnston, N.P., Jefferies, L.K., Butler, A.*, Vogeler, K.*, **Dunn, M.L.**, Aduviri, G.*, and Bonifacio, A. 2007. The sensory acceptance of cookies made from calcium fortified quinoa (*Chenopodium quinoa* Willd.) in Santa Rosa, Bolivia. Institute of Food Technologists Annual Meeting. Chicago, IL.
- *Rowe, J.P., Ogden, L.V., Pike, O.A., Steele, F.M., and **Dunn, M.L.** 2007. Effect of end-user preparation methods on vitamin content of fortified humanitarian food-aid commodities. Institute of Food Technologists Annual Meeting. Chicago, IL.
- *Rowe, J.P., **Dunn, M.L.†**, Ogden, L.V., Pike, O.A., Steele, F.M., and *Brodegard, W.C. 2006. The typical preparation and role of fortified food aid in the diet of African beneficiaries : A field study. Institute of Food Technologists Annual Meeting. Orlando, FL. †Senior Author
- *Burton, K.E., *Brodegard, W.C., **Dunn, M.L.†**, Eggett, D., Ogden, L.V., Pike O.A., and Steele, F.M.. 2006. Effect of micronutrient fortification on nutritional, sensory, and other properties of commercial corn tortillas prepared from nixtamal. Institute of Food Technologists Annual Meeting. Orlando, FL. †Senior Author
- Dunn, M.L.** 2006. Laboratory replication of end user preparation methods: Effect on nutritional value of fortified humanitarian food aid commodities. GAO Review of United States Food Aid. Washington, D.C.
- Dunn, M.L.** 2006. Overview of governmental and legislative framework underlying U.S. food production/distribution operations. Utah Specialty Food Association. Salt Lake City, UT.
- *Burton, K.E. and **Dunn, M.L.** 2005. Micronutrient fortification of nixtamal tortillas (Estudio de la fortificacion de tortillas de nixtamal con micronutrimientos). Conference of Tortilla Industry Suppliers. Mexico City, Mexico.
- Dunn, M.L.** 2005. Personal views on biotechnology from a Latter-day Saint (Mormon) scientist. 2005 Institute of Food Technologists Annual Meeting. New Orleans, LA.
- *Rowe, J.P. and **Dunn, M.L.** 2005. Laboratory replication of end user preparation methods: Effect on nutritional value of fortified humanitarian food aid commodities. SUSTAIN/USAID Food Aid Quality Task Force. Washington, DC.
- Dunn, M.L.** 2004. Additives: What's being added to our food and why? Utah Dairy Council Nutrition & Food Science Workshop. Salt Lake City, UT.