

CURRICULUM VITAE

Lynne McLandsborough Ph.D.

Current Address

Professor of Food Microbiology

Department of Food Science
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Education

1993	Ph.D.	Food Science, University of Minnesota
1989	MS	Food Science, University of Minnesota
1986	BA	Microbiology, Miami University (Ohio)

Professional Experience

September 2016- Present	Professor, Dept. of Food Science
Aug 2001- Aug 2016	Associate Professor, Dept. of Food Science
Sept. 1995 - Aug 2001	Assistant Professor, Dept. of Food Science Faculty Member, Molecular and Cellular Biology Interdisciplinary Program University of Massachusetts, Amherst, MA
1993-1995	Post-Doctoral Fellow, Dept. of Microbiology, University of Minnesota Medical School, Minneapolis, MN
1986-1993	Research Assistant, Dept. of Food Science and Nutrition, University of Minnesota, St. Paul, MN

Honors

2009	College of Food and Natural Resources Outstanding Advisor Award
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2001	College of Food and Natural Resources 2001 Outstanding Teaching Award
1997-2000	National Advisor to the Student Association of the Institute of Food Technologists
1993-1995	NIH Post-Doctoral Training Fellowship

Research Interests

Current research projects in my laboratory use *Salmonella sp.*, *Listeria monocytogenes* and *E. coli* O157:H7 and as the model organisms to study the following research interests:

- Bacterial ecology in foods and processing surfaces
 - Influence of bacterial surface structures to microbial adhesion
 - Mechanisms of bacterial adhesion
 - Mechanisms of biofilm formation on food processing surfaces
 - Ecology of biofilm formation
 - Bacterial survival under desiccated conditions
- Cross contamination and Cleaning and Sanitation
 - Mechanisms of physical transfer of bacteria between foods and surfaces
 - Methods of biofilm destruction and removal
 - Antimicrobial delivery systems
 - Antimicrobial surfaces

Funded Grants

Development of a label-free SERS mapping based platform for multi-bacteria detection. PI. He. Co-PI McLandsborough. USDA AFRI-NIFA A1511 \$444,200 (1/15-1/18)

Preventing Spoilage of Packaged Foods by Non-Migratory Active Packaging PI Goddard, CoPI: Decker and McLandsborough. USDA AFRI-NIFA A1361 \$498,165 (1/15-1/18)

Fabrication, Characterization & Toxicology of Antimicrobial Nanoparticle Delivery Systems. PI. McClements Co-PI McLandsborough, L. and Xiao, H. United States Department of Agriculture, Agriculture and Food Research Initiative Competitive Grants Program area A1511. \$454,000(12/10 – 11/15)

Survival, Transfer, and Inactivation of Salmonella on Plastic Materials Used in Tomato Harvest. PI. McLandsborough, Co PI: Goddard J and Autio W. Center for Produce Safety Grant Program. \$250,695 (1/11 – 12/12)

Development Of Antimicrobial Food Processing Surfaces By Nanoscale Surface Modification PI. Goddard, J. Co-PI: R. Hotchkiss and L. McLandsborough. United States Department of Agriculture, Agriculture and Food Research Initiative Competitive Grants Program area A1511. \$488,000 (12/10-11/13)

Autoclave Purchase for Food Science Department L. McLandsborough UMASS Hatch Equipment Funding Grant 2010. \$35,000

Bioactive Foods Research for Health and Food Safety, MA P: Park, Y Co-PI: Xiao, H.; Nugen, S.R.; Goddard, J., McClements, D.J.; Decker, E.A.; Shetty, K.; Levin, R.E.; Labbe, R.G.; McLandsborough, L. USDA Special Grant \$488,601 (5/1/10- 4/30/12)

Biofilm inactivation and removal using micellular encapsulated antimicrobial. PI J. Weiss and L. McLandsborough (*amended 8/08 – PI McLandsborough*). National Research Competitive Grants Program. United States Department of Agriculture. \$255,914 (7/1/07 – 6/30/09)

Characterization of the transfer of Listeria monocytogenes between processing surfaces and foods. PI National Research Competitive Grants Program. United States Department of Agriculture. \$244,113 (9/1/03 – 8/30/07)

Assessment of biofilm production on stainless steel by reduced biofilm production (RBP) mutants. PI. National Cattlemen's Beef Association. \$33,968 (*funding withdrawn by granting agency due to IP issues with the University of Massachusetts*)

Seafood Safety 7. PI. R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale, E. Decker, D. J. McClements, J. Weiss and Y. Park. Special Research Grants Program. United States Department of Agriculture. \$423,293. (7/1/06 – 6/30/08)

Seafood Safety 6. PI. R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale, E. Decker, D. J. McClements, J. Weiss and Y. Park. Special Research Grants Program. United States Department of Agriculture. \$406,508 (7/1/05 - 6/30/07) .

Seafood Safety 5. PI. R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, and F. Clydesdale, Special Research Grants Program. United States Department of Agriculture. \$353,881 (\$176,441 to UMass) (7/1/04 - 6/30/06) .

Seafood Safety 4. PI. R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale, E. Decker, and D. J. McClements. Special Research Grants Program. United States Department of Agriculture. \$394,705 (7/1/03 - 6/30/05)

Seafood Safety 3. PI. R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale, E. Decker, P. Chinachoti, and D. J. McClements. Special Research Grants Program. United States Department of Agriculture. \$374, 135 (7/1/02 - 6/30/04)

Seafood Safety 2. PI: R. E. Levin, Co-PI L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale. Special Research Grants Program. United States Department of Agriculture. \$259,471 (7/1/01 - 6/30/03)

Seafood Safety 1. PI R. E. Levin Co-PI: L. McLandsborough, K. Shetty, R. Labbe, F. Clydesdale and M. Peleg. Special Research Grants Program. United States Department of Agriculture. \$234,000 (7/1/00 - 6/30/03)

Bacterial Adhesion and growth at interphases. PI University of Massachusetts/ USDA Hatch Grant Program (9/1/00 - 8/31/05)

Online Education for Secondary Science Teachers: An Integrated Approach to Food Safety Training. PI N.L. Cohen. Co-PI. L. McLandsborough, W. Mohling and R. Brennan Olson. Integrated Research, Education and Extension Competitive Grants Program, USDA. \$549,994 (10/1/02 – 9/30/05)

Using good agricultural practices (GAP) to integrate food safety principles into small farm production of fresh and minimally processed fruits and vegetables. Research Participant. New England Cooperative Extension Project. Lead Institution: University of Rhode Island. United States Department of Agriculture. Total \$472,926. University of Massachusetts Extension portion \$84,199. (10/1/00-9/31/03).

Development of a microtiter plate biofilm assay and assessment of the ability of L. monocytogenes isolates to produce biofilms. PI. University of Massachusetts Faculty Research Grant, \$10,000 (1/1/00 - 12/31/00).

Enhanced green fluorescent protein expression in Escherichia coli to study adherence to meat. PI National Research Competitive Grants Program. United States Department of Agriculture \$92,000 (10/15/97 - 10/14/99).

Analysis of E. coli removal from beef tissue using laser scanning confocal microscopy. PI National Cattleman's Beef Association \$22,000 (1/1/98-12/31/98).

Hemin-supplemented media for selection of Escherichia coli O157:H7 from foods. PI National Research Competitive Grants Program. United States Department of Agriculture, \$53,000 (11/1/96 - 10/31/98).

Multiplex nested polymerase chain reaction for the detection of shiga-like toxin producing Escherichia coli in food systems. PI University of Massachusetts/ USDA Hatch Grant Program \$15,000/yr (9/1/95 - 8/31/00)

Research in the area of destruction and injury of foodborne bacteria via pulsed electric field . PI Ion Physics Corp. \$3,915 (6/1/97 - 8/30/97).

Research in the identification and characterization of protein binding receptors on lactic acid bacteria PI Protein Group Inc. \$5,000 (6/1/97 - 8/30/97)

Use of green fluorescent protein to study the behavior of bacteria upon solid meat surfaces by laser scanning confocal microscopy. PI University of Massachusetts Faculty Research Grant, \$5,000 (12/1/96 - 11/30/97)

Patents and Patent Applications

McClements, D. J., L. McLandsborough, and Y. Chang. Antimicrobial delivery systems, methods of manufacture, and methods of use thereof. Patent Application No. 13/433,661. March 29, 2012. **Awarded 2017 Patent: US 9,781,949 B2**

McClements, D. J., A. H. Saberi, Y. Chang and L. McLandsborough. Methods for producing optimal stable nanoemulsions and formulation obtained therefrom. Patent application No: 14/458,517. Aug., 13, 2014.

McClements, D. J., L. McLandsborough, and K. Landry. Antimicrobial activity of acidified spontaneous essential oil nanoemulsions and their utilization as a food and surface disinfectant/sanitizer. US Patent Application no 15/216895 July 22, 2016. **Awarded 2017 US Patent: US20170020171 A1.**

Publication List

Manuscripts Submitted or under revision

Books, I. T., T. Xu, K. S. Landry and L. A. McLandsborough. The involvement of *Imo2554*, a gene encoding *Listeria monocytogenes* LTA anchor formation protein B (LAFB) in biofilm formation and adaptation to cellular stress. *Manuscript in revision*

Publications

Chuesiang P, Siripatrawan U, Sanguandeeikul R, McLandsborough L, Julian McClements D. Optimization of cinnamon oil nanoemulsions using phase inversion temperature method: Impact of oil phase composition and surfactant concentration. *Journal of Colloid and Interface Science* doi:<https://doi.org/10.1016/j.jcis.2017.11.084>.

Pearson B, Mills A, Tucker M, Gao S, McLandsborough L, He L. 2018. Rationalizing and advancing the 3-MPBA SERS sandwich assay for rapid detection of bacteria in environmental and food matrices. *Food Microbiology* 72:89-97.

Ryu V, McClements DJ, Corradini MG, McLandsborough L. 2018. Effect of ripening inhibitor type on formation, stability, and antimicrobial activity of thyme oil nanoemulsion. *Food Chemistry* 245:104-111

Landry, K. S., Sela, D. A., & McLandsborough, L. (2018). Influence of sprouting environment on the microbiota of sprouts. *Journal of Food Safety*. DOI: 10.1111/jfs.12380

Wang, L. J. G. Stoffolano and L. McLandsborough. 2017. Development of the fly “crop vessel” bioassay for fly/microbial studies. *Afr. J. Microbiolol. Res.* 11:1027-1034

Pearson, B., Wang, P., Mills, A., Pang, S., McLandsborough, L., & He, L. (2017). Innovative sandwich assay with dual optical and SERS sensing mechanisms for bacterial detection. *Analytical Methods*, 9(32), 4732-4739.

Wang, P., Pang, S., Pearson, B., Chujo, Y., McLandsborough, L., Fan, M. and He, L., 2017. Rapid concentration detection and differentiation of bacteria in skimmed milk using surface enhanced Raman scattering mapping on 4-mercaptophenylboronic acid functionalized silver dendrites. *Anal Bioanal Chem.*, 409:2229-2238.

Landry, S. K., J. Komaiko, D. Wong, T. Xu, D. J. McClements and L. McLandsborough. 2016 The inactivation of *Salmonella* spp. on sprouting seeds using a spontaneous carvacrol nanoemulsion acidified with organic acids. *J. Food Protection* 79:1115-1126.

Huang, K., L. A. McLandsborough, and J. M. Goddard. 2016. Adhesion and removal kinetics of *Bacillus cereus* biofilms on Ni-PTFE modified stainless steel. *Biofouling* 32:523-533

Wang P, S. Pang J. Chen, L. McLandsborough, S.R. Nugen, M. Fan, and L. He. 2016. Label-free mapping of single bacterial cells using surface-enhanced Raman spectroscopy. *Analyst* 141:1356-1362

Landry, K. S., S. Micheli, D. J. McClements and L. McLandsborough. 2015, Effectiveness of a spontaneous carvacrol nanoemulsion against *Salmonella enterica* Enteritidis and *Escherichia coli* O157:H7 on contaminated broccoli and radish seeds. *J. Food Microbiology*. 51:10-17.

Chang, Y., L. McLandsborough, D. J. McClements. 2015. Fabrication, Stability and efficacy of dual component antimicrobial nanoemulsions: essential oil (thyme oil) and cationic surfactant (lauric arginate). *Food Chem.* 172:298-304.

Landry, K. S., Y. Chang, D. J. McClements, and L. McLandsborough. 2014. Effectiveness of a novel spontaneous carvacrol nanoemulsion against *Salmonella enterica* Enteritidis and *Escherichia coli* O157:H7 on contaminated mung bean and alfalfa seeds. *Intl. J. Food Microbiol.* 187:15-21.

Loeffler, M., D. J. McClements, L. McLandsborough, N. Terjung, Y. Chang, and J. Weiss. 2014. Electrostatic interactions of cationic lauric arginate with anionic polysaccharides affect antimicrobial activity against spoilage yeasts. *J. Appl. Microbiol.* 117:28-39.

Talbert, J., K. Seto, J. Cotter, L. McLandsborough, J. M. Goddard. 2014. Effect of cleaning and sanitizing agents on the surface characteristics of new and extended-wear produce picking bins. *J. Sci of Food and Agr.* 94:1681-1687

Bastarrachea, L.J., L.A. McLandsborough, M. Peleg, J. M. Goddard. 2014 Antimicrobial N-halamine modified polyethylene, characterization, biocidal efficacy, regeneration, and stability. *J. Food Sci.* 79:E887-E897.

Chang, YH, L. McLandsborough, D. J. McClements. 2014. Interaction of cationic antimicrobial (ϵ -polylysine) with food-grade biopolymers: dextran, chitosan, carrageenan, alginate, and pectin. *Food Res. Intl.* 64:396-401

Chang, YH, L. McLandsborough, D. J. McClements. 2014. Antimicrobial delivery systems based on electrostatic complexes of cationic ϵ -polylysine and anionic gum arabic. *Food Hydrocolloids.* 35:137-143.

Bastarrachea, LJ, M. Peleg, L. McLandsborough and J. M Goddard. 2013. Low density polyethylene modified with antimicrobial N-halamines: Kinetics of inactivation against *Listeria monocytogenes* and N-halamine regeneration. *J. Food Eng.* 117:52-58.

Chang, YH, WM Gu, FJ Zhang, and L. McLandsborough. 2013. Disruption of Imo1386, a putative DNA translocase gene, affects biofilm formation of *Listeria monocytogenes* on abiotic surfaces. *Intl. J. Food Microbiol.* 161:158-163.

Chang, Y. L. McLandsborough. And D. J. McClements. 2012. Physical properties and antimicrobial efficacy of thyme oil nanoemulsions: influence of ripening inhibitors. *J. Ag. Food Chem.* 60:12056-120563.

Y. Chang, W. Gu, N. Fischer and L. McLandsborough. 2012. Identification of genes involved in *Listeria monocytogenes* biofilm formation by *mariner*-based transposon mutagenesis. *Appl. Microbiol. Biotechnol.* 93:2051-2062 DOI10.1007/s00253-011-3719-z. Published on line Nov 27,2011.

Y. Chang, L. McLandsborough 2012 Low Concentration of Ethylenediaminetetraacetic Acid (EDTA) Affects Biofilm Formation of *Listeria monocytogenes* by Inhibiting its Initial Adherence. *Food Microbiology* . 29:10-17

Chang, Y. H., L. McLandsborough, D. J. McClements. 2012. Cationic Antimicrobial (epsilon-Polylysine)-Anionic Polysaccharide (Pectin) Interactions: Influence of Polymer Charge on Physical Stability and Antimicrobial Efficacy. *J. Ag. Food Chem.* 60:1837-1844

Y. Chang, L. McLandsborough, D. J. McClements. 2011. Physiochemical properties and antimicrobial efficacy of electrostatic complexes based on cationic epsilon-polylysine and anionic pectin. *J. Agricultural and Food Chemistry.* 12:6776-6782.

K. Ziani, Y. Chang, L. McLandsborough, D. J. McClements. 2010. Influence of surfactant charge on antimicrobial efficacy of surfactant-stabilized thyme oil nanoemulsions. *J. Agriculture and Food Chemistry* 11: 6247-6855

Y. Chang, L. McLandsborough, D. J. McClements 2011. Interactions of a cationic antimicrobial (epsilon-Polylysine) with an anionic biopolymer (pectin): an isothermal titration calorimetry, microelectrophoresis and turbidity study. *J. Agricultural and Food Chemistry* 10:5579-5588.

D. Pérez-Conesa, J. Cao, L. Chen, L. McLandsborough and J. Weiss. 2011 Inactivation of *Listeria monocytogenes* and *Escherichia coli* O157:H7 Biofilms by Micellar-Encapsulated Eugenol and Carvacrol. *J. Food Protection* 74:55-62

Roberts, A. J., J. Robbins, L. McLandsborough, and M. Wiedmann. 2010. A 10 Year Review of the Food Science Summer Scholars Program at Cornell University and the University of Massachusetts: A Model for Research Training and for Recruiting Undergraduate Students into Graduate Programs and Careers in Food Science. *J. Food Sci Edu.* 9:98-105.

Dai Y, L. A. McLandsborough, J. Weiss, and M. Peleg. 2010 The concentration and application order effects of sodium benzoate and eugenol mixtures on the growth inhibition of *Saccharomyces cereviceae* and *Zygosaccharomyces bailii*. *J. Food Sci* 75: M482-M488

Rodríguez, A., W. R. Autio and L. A. McLandsborough. 2008. Effects of contact time, pressure, percent relative humidity (%RH) and material type on *Listeria* biofilm adhesive strength at a cellular level using atomic force microscopy (AFM). *Food Biophysics.* 3:305-311.

Rodríguez, A., W. R. Autio and L. A. McLandsborough. 2008 Effect of surface roughness and stainless steel finish on *Listeria monocytogenes* attachment and biofilm formation. *J. Food Protection* 71:170-175.

Rodríguez, A., W. R. Autio and L. A. McLandsborough. 2007. Effect of biofilm dryness on the transfer of *Listeria monocytogenes* biofilms grown on stainless steel to bologna and hard salami. *J. Food Protection* 70 : 2480-2484

P.A. Beffa-Negrini, N, L. Cohen, M. J. Laus, and L. McLandsborough. 2007. Development and Evaluation of an online, inquiry based food safety education program for secondary teachers and their students. *J. Food Science Education.* 6:66-71

- A. Rodríguez, W. R. Autio and L. A. McLandsborough. 2007. Effects of inoculation level, material hydration, and stainless steel surface roughness on the transfer of *Listeria monocytogenes* from inoculated bologna to stainless steel and high density polyethylene. *J. Food Protection* 70:1423-1428
- A. Rodríguez and L. A. McLandsborough 2007. Evaluation of the transfer of *Listeria monocytogenes* from surfaces to foods. *J. Food Protection* 70:600-606.
- D. Pérez-Conesa, L. McLandsborough, and J. Weiss 2006. Inhibition and Inactivation of *Listeria monocytogenes* and *Escherichia coli* O157:H7 Colony Biofilms by Micellar-Encapsulated Eugenol and Carvacrol. *J. Food Protection*. 69: 2947-2954
- Cao, J., C. Cronin, M. Clarke, R. Witkowsky, H. Lu, A. Sayedahaman, R.E. Levin, and L. A. McLandsborough. 2006 Levels and Tracking of *Listeria monocytogenes* Strains in a Seafood-Processing Environment using Enrichment Most Probable Number and Randomly Amplified Polymorphic DNA. *J. Food Prot.* 69:489-494
- L. McLandsborough, A. Rodriguez, and D. Pérez-Conesa and J. Weiss. 2006. Biofilms: At the Interface between Biophysics and Microbiology. *Food Biophysics*. 1:94-114
- Cao, J, C. Cronin, L. McLandsborough, R. E. Levin. 2005. Effects of primers and *Taq* polymerase on randomly amplified polymorphic DNA analysis for typing *Listeria monocytogenes* from the environment of a shrimp processing plant. *Food Biotechnol.* 19:217-226.
- P. Prachaiyo and L. A. McLandsborough. 2003. Oil-in-water emulsion as a model system to study the growth of *E. coli* O157:H7 in a heterogenous food system. *J. Food Sci.* 68:1018-1024
- D. Djordjevic, M. Wiedmann, and L. A. McLandsborough. 2002. Microtiter plate assay for assessment of *Listeria monocytogenes* biofilm formation. *Appl. Environ. Microbiol.* 68:2950-2958.
- Li, J., D. J. McClements and L. A. McLandsborough. 2001. Interaction between emulsion droplets and *Escherichia coli* cells. *J. Food Sci.* 66:570-575.
- Shaw, W.K., and L. A. McLandsborough. 2000. PCR reaction parameter titration as an approach to develop shortened reaction times in a conventional thermal cycler. *J. Rapid Meth. Automat. Microbiol.* 8:53-64
- Prachaiyo, P., and L. McLandsborough. 2000. A microscopic method to visualize *Escherichia coli* interaction with beef muscle. *J. Food Prot.* 63:427-433
- Fernec, J., J. Oliver, R. Witkowski, L. McLandsborough, and R. Levin. 2000. Studies in the growth of *Escherichia coli* O157:H7 strains at 45.5°C. *J. Food Prot.* 63:1173-1178.

Li, J. and L. A. McLandsborough. 1999. The effects of the surface charge and hydrophobicity of *Escherichia coli* in its adhesion to beef muscle. *Int. J. Food Microbiology*. 53:185-193

Cleary, P. P., L. McLandsborough, L. Ikeda, D. Cue, J. Krawczak, and H. Lam. 1998. High-frequency intracellular infection and erythrogenic toxin A expression undergo phase variation in M1 group A streptococci. *Mol. Microbiol.* 28:157-67.

McLandsborough, L. A., L. Sechard, L. L. McKay. 1998. Synergistic effect of combination of lactococcal phage resistance fragments of pNP40 with cloned abortive infection gene *abiD*. *J. Dairy Sci.* 81:362-368.

Ji, Y., L. McLandsborough, A. Kondagunta, and P. P. Cleary. 1996. C5a peptidase alters clearance and trafficking of group A streptococci by infected mice. *Infect. Immun.* 64:503-510.

Cleary, P. P., L. A. McLandsborough, and K. Hoikka Prichard. 1995. Differential expression of genes in the vir regulon. *Dev. Biol. Stand.* 85:145-8

McLandsborough, L. A. and P. P. Cleary. 1995. Insertional inactivation of *virR* in *Streptococcus pyogenes* M49 demonstrates that VirR functions as a positive regulator of streptococcal C5a peptidase and M protein in OF⁺ strains. *Dev. Biol. Stand.* 85:149-52

McLandsborough, L. A., and P. P. Cleary. 1995. Insertional inactivation of *virR* in *Streptococcus pyogenes* M49 demonstrates that VirR functions as a positive regulator of ScpA, FcRA, OF, and M protein. *FEMS Microbiol. Let.* 128:45-52.

McLandsborough, L. A., K. M. Kolaetis, T. Requena, and L. L. McKay. 1995. Cloning and characterization of the abortive infection genetic determinant *abiD* isolated for pBF61 of *Lactococcus lactis* subsp. *lactis* KR5. *Appl. Environ. Microbiol.* 61:2023-2026.

McLandsborough, L. and S. R. Tatini. 1991. A 6 h microslide immunodiffusion assay for confirmed detection of staphylococcal enterotoxins. *Let. Appl. Microbiol.* 12:81-84.

Books

L. McLandsborough. Food Microbiology Laboratory. CRC Press, Boca Raton, FL. 2005.

W. K. Shaw Jr and L. McLandsborough. Instructor's guide to Food Microbiology Laboratory. CRC Press, Boca Raton, FL. 2005

Book Chapters

L. McLandsborough. 2015. Ch.1. Current knowledge and perspectives on biofilm formation and remediation. *In. Biofilms in the Food Environment. 2nd Edition.* A. Pometto and A. Demirci, Editors. John Wiley and Sons

L. McLandsborough. 2013. Ch. 27. Microbial Biofilms and Food Safety. *In* Guide to Foodborne Pathogens. Ed. R. G. Labbe and S. Garcia. John Wiley & Sons. Oxford, UK

Rodríguez-Lozano, A. and L. McLandsborough. 2009. Biofilm formation by *Listeria monocytogenes* and transfer to foods *In* Biofilms in the food and beverage industries. P. M. Fratamico, B. A. Annous and N. W. Gunther, Editors. Woodhead Publishing Limited, Cambridge. p200-225

Shaw, W. K. Jr. and L. McLandsborough 2006. Biofilm production by *Listeria monocytogenes*. *In* Food Biotechnology 2nd Edition K. Shetty, G. Paliyath, A. Pometto and R. E. Levin Editors. CRC Press 1329 – 1342.

Conference Proceedings

Prachaiyo, P., J. Li and L. A. McLandsborough. 1999. Studies in *E. coli* O157:H7 adherence to beef muscle using laser scanning confocal microscopy and a magnetic meat fraction assay. *In* Food Microbiology and Food Safety into the Next Millennium; Proceeding of the Seventeenth International Conference of the International Committee on Food Microbiology and Hygiene.

McLandsborough, L. A. 1999 Use of bioluminescent and fluorescent bacteria to study foodborne pathogens. *In* Proceedings of the 52nd Annual Reciprocal Meat Conference. American Meat Science Association, Kansas City, MO

McLandsborough, L. A. 1997. Assuring Food Safety of Value-Added Products: Development of A HACCP Plan For Small Scale Or Home Businesses. *In* Proceedings of the 1997 Northeast Farmers' Direct Marketing Conference.

General Publications and media advice

Interviewed for “insect legs? Mouse feces? Here are the disgusting things you can find in your food. <http://wwlp.com/2018/02/15/insect-legs-mouse-feces-here-are-the-disgusting-things-you-can-find-in-your-food/>

Collaboration with Lili He featured on New England Public Radio (Feb 7 2018)
<http://nepr.net/post/scientists-develop-smartphone-app-prevent-food-poisoning#stream/0>

Featured on pod cast *This Won't Hurt A Bit* 2016 Episode 18 “Food Poisoning”
<https://itunes.apple.com/us/podcast/this-wont-hurt-a-bit/id1047494657?mt=2#episodeGuid=56158cb0e4b03839a64105f3%3A561596d2e4b0b9df5c3b0de5%3A57313cd2b6aa606748faba16>

Featured expert on NBC nightly News on Saturday January 23, 2016. “One Dead Following Listeria Outbreak from Dole Salad Mix” <http://www.nbcnews.com/nightly-news/video/1-dead-following-listeria-outbreak-from-dole-salad-packages-607574083843>

“Listeria in Ice Cream: Expert Analysis” April 2015. Food Safety Magazine. <http://www.foodsafetymagazine.com/news/listeria-in-ice-cream-expert-analysis/>

“Expert Advice: The 10 most dangerous foods and how to avoid them”. 2014. Men’s Journal. <http://www.mensjournal.com/expert-advice/the-10-most-dangerous-foods-and-how-to-avoid-them-20140613>

Icebox Confidential, Freezing 101. April 2012. Whole Living Magazine. <http://www.wholeliving.com/173303/freezing-101>

“Why do apple slices turn brown after being cut?” 2007. Ask The Expert section of Scientific America Magazine. October 2007 p 114. <http://www.scientificamerican.com/article/experts-why-cut-apples-turn-brown/>

“Old Milk Danger” 2003. Child Magazine

Li, J. and L. A. McLandsborough. 1999. The application of significance of zeta potential measurement to study bacterial interaction with foods. *In* Particle Techniques, a newsletter from the Malvern Science and Technology Group.

Software and Educational CDs

M. Mattingly and L. McLandsborough 2004. FOOD SAFETY FIRST Microbial Growth Simulation Program for high school and middle school students. Food Safety First web page http://www.foodsafetyfirst.org/fsf_mgsp.html

UMass Extension Nutrition Education Program. Food Safety FIRST course for Science Teachers CD. Material on CD written (and performed) by L. McLandsborough: 7 Videos, 5 teaching presentations and 1 interactive activity.

Abstracts of presented research (presenter in caps)

BOULDEN, B. and L. A. McLandsborough. 2017. Investigating natural biofilm dispersion in *Listeria monocytogenes*. Poster #4. Pioneer Valley Microbiology Symposium 2017. UMass Amherst.

RYU, V., D. J. McClements, and L. McLandsborough. 2017 Effect of ripening inhibitor type on formation, stability and antimicrobial activity of thyme oil nanoemulsions. Poster # 29 Pioneer Valley Microbiology Symposium 2017. UMass Amherst.

ROSENTHAL, Z., K. S. Landry, D. J. McClements and L. McLandsborough. 2015. The effectiveness of a eugenol nanoemulsion against *Salmonella enterica* subsp. Enteritidis contaminated mung bean seeds. UMass Amherst Undergraduate Life Science Symposium Poster Session.

ZOU, N. K. Landry, D. J. McClements and L. McLandsborough. 2015. The effectiveness of food grade antimicrobial treatment against *Salmonella spp.* contaminated stainless steel. UMass Amherst Undergraduate Life Science Symposium Poster Session.

XU, T., K. S. Landry, L. McLandsborough. 2015. The influence of lipoteichoic acid (LTA) on growth of *Listeria monocytogenes* at various temperatures. UMass Amherst Undergraduate Life Science Symposium Poster Session.

LANDRY, K. S., D. J. McClements, L. McLandsborough. Effectiveness of a spontaneously emulsified carvacrol nanoemulsion acidified with organic acids against a *Salmonella sp.* cocktail on contaminated mung beans. P3-212. IAFP Annual Meeting. July 25-28, Portland, OR.

WANG, L., J. G. Stoffolano, Jr., L. McLandsborough. Development of the fly “crop vessel assay” to evaluate the growth of *Escherichia coli* O157:H7 in the house fly, *Musca domestica*. P2-161. IAFP Annual Meeting. July 25-28, Portland, OR.

Tirajaya Brooks, I, T. Xu, K. S. Landry and L. MCLANDBOROUGH. The influence of lipoteichoic acid on *Listeria monocytogenes* adaptation to cellular stress. 094-139 2015 IFT Annual Meeting, Chicago IL.

ADAMS, C. N., D. McClements, L. McLandsborough. Oil disrupts the efficacy of lauric arginate mixed micelles in oil-in-water emulsions. Poster 1352. ASM 114th General Meeting May 17-20, 2014

LANDRY, K. S., Y. Chang, D. J. McClements, L. McLandsborough. Effectiveness of an antimicrobial nanoemulsion against *Salmonella enterica* and *Escherichia coli* contaminated sprouting seeds. Poster 1368. ASM 114th General Meeting May 17-20, 2014

MCLANDBOROUGH, L. Survival, transfer, and inactivation of Salmonella on plastic materials used in tomato harvest. Research Presentation. 2013 Center for Produce Safety Annual Meeting. Rochester, NY

MCLANDBOROUGH, L. Development of Antimicrobial Delivery Systems for Foods and Biofilm removal. Symposium. 2013 IFT Annual Meeting. Chicago, IL

BASTARRACHEA, LJ, Peleg, M, McLandsborough, LA, Goddard, JM. “Low density polyethylene modified with antimicrobial N-halamines: Kinetics of inactivation against *Listeria monocytogenes* and N-halamine regeneration”. 245th ACS National Meeting, Division of Agricultural and Food Chemistry, Graduate Student Symposium. April 7th 2013. New Orleans, LA.

LANDRY, K. S., E. F. Dosunmu, and L. McLandsborough. Isolation and effectiveness of antagonistic *Serratia plymuthica* ED1 against *Salmonella Enteritidis* growth on mung bean sprouts. Poster. 2013 Annual International Association for Food Protection Meeting, Charlotte, IL. P3-121

COTTER J., J. Talbert, J. Goddard, W. Autio, and L. McLandsborough. Influence of Soil Particles on the Survival of Salmonella on Plastic Tomato Harvest Containers. 2012 International Association of Food Protection Annual Meeting, Providence Rhode Island T1-04

Y. Lee, P. Rebe, A. Fish and L. MCLANDBOROUGH. Comparison of a reference method of bioaerosol sampling to a newly developed compressed air microbial testing unit (CAMTU). 2012 International Association of Food Protection Annual Meeting, Providence Rhode Island P1-18

ADAMS, C. Y. Chang, D. J. McClements and L. McLandsborough. Determination of the minimal inhibitory concentration of lauric arginate against three strains of *Salmonella enterica*. 2012 International Association of Food Protection Annual Meeting, Providence Rhode Island. P3-97

BASTARRACHEA, L. McLandsborough, J. Goddard. Development of antimicrobial surface-modified stainless steel with N-halamines: characterization and effectiveness against *Listeria monocytogenes*. 2012 International Association of Food Protection Annual Meeting, Providence Rhode Island P3-91

TIRTAJAYA. I., Y. Chang, L. McLandsborough. Influence of lipoteichoic acid (LTA) on *Listeria monocytogenes* biofilm formation. 2012 International Association of Food Protection Annual Meeting, Providence Rhode Island. P3-117

CHANG, Y. L. McLandsborough, D. J. McClements. Interactions of a cationic antimicrobial (ϵ -polylysine) with an anionic biopolymer (pectin): an isothermal titration calorimetry, microelectrophoresis, and turbidity study. Institute of Food Technologists Annual Meeting, New Orleans, LA. 034-01

ZHANG , F and L. McLandsborough. Measurement of *Listeria monocytogenes* biofilm cohesive energy using atomic force microscopy. 2011 International Association of Food Protection Annual Meeting. Milwaukee, WI. P3-44.

CHANG Y. , Weimin Gu and Lynne McLandsborough Disruption of *Listeria monocytogenes* *Imo1386*, a Putative DNA Translocase Gene, Affects Biofilm Formation on Abiotic Surfaces. American Society of Microbiologists Annual Meeting 2010. San Diego MA. P-2294

CHANG Y. and Lynne McLandsborough, Low Concentration of Ethylenediaminetetraacetic Acid (EDTA) Affects *Listeria monocytogenes* Biofilm Formation by Inhibiting Its Initial Attachment. International Association of Food Protection Annual Meeting 2010. Anaheim, CA

ADAMS, C. and L. McLandsborough. 2009. Influence of surface roughness on biofilm adhesion by *Escherichia coli*. 2009 Annual Biomedical Research conference for Minority Students (ABRCMS). 2009 Phoenix AZ .

CHANG, Y., W. Gu, N. Fisher, L. McLandsborough. *Listeria monocytogenes* Biofilm Formation: Identification of Genes that Code for Biofilm Phenotypes by *mariner*-based Transposon

Mutagenesis. American Society of Microbiologists Annual Meeting. Philadelphia, PA 2009. P-129.

ASKER, D. Jochen Weiss, and Lynne McLandsborough. Influence of environmental stresses on stability of antimicrobial delivery system of eugenol encapsulated in cationic-nonionic mixed micelle. The Institute of Food Technologists Annual Meeting. Anaheim, CA 2009. 057-24

ASKER, D., J. Weiss, and L. McLandsborough, Influence of Environmental Stresses on Stability of Antimicrobial Delivery System of Eugenol Encapsulated in Ionic-Nonionic Mixed Micelles. 100th AOCS Annual Meeting and Expo. Orlando, FL. May 3-6 2009

DAI, Yumei, Lynne McLandsborough, Jochen Weiss, Micha Peleg. Quantifying the concentration and application order effect of sodium benzoate and eugenol mixtures on the growth suppression and retardation of two yeasts. The Institute of Food Technologists Annual Meeting. Anaheim, CA. 2009. 123-59.

CAO, J. Liwen Chen, Dario Perez-Conesa, Lynne McLandsborough, Jochen Weiss. Antimicrobial effects of micellar-encapsulated eugenol of *Escherichia coli* O157:H7 and *Listeria monocytogenes* biofilms. The Institute of Food Technologists Annual Meeting, New Orleans, LA. 2008 052-26

CHEN Liwen, Lynne McLandsborough, Jochen Weiss. Evaluation of fluorescent stains for detection of *Escherichia coli* and *Listeria monocytogenes* viability by confocal microscopy and fluorescence spectroscopy. The Institute of Food Technologists Annual Meeting, New Orleans, LA. 2008 176-13

RODRIGUEZ, A., W. Autio and L. McLandsborough. Effect of hydration, inoculation level and surface roughness on transfer of *Listeria monocytogenes* from inoculated bologna to surfaces. The Institute of Food Technologists Annual Meeting Chicago IL. 2007 058-01

RODRIGUEZ, A., W. Autio and L. McLandsborough. Effect of surface roughness and stainless steel finish on *Listeria monocytogenes* early attachment and biofilm formation. The Institute of Food Technologists Annual Meeting Chicago IL. 2007 058-02

D. Perez-Conesa, A. Rodriguez, J. Weiss and L. MCLANDBOROUGH. Adhesion foci of *Listeria monocytogenes* Scott A biofilms exposed to surfactant micellular-encapsulated eugenol and carvacrol solutions as measured by atomic force microscopy. T3-01. IAFP 94th Annual Meeting Abstract Book 2007 p 91.

RODRIGUEZ, A. and Lynne A. McLandsborough Evaluation of the Transfer of *Listeria monocytogenes* from Surfaces to Foods. P1-29 IAFP 93rd Annual Meeting Abstract Book. 2006 p.8

J.CAO and Lynne A. McLandsborough . Model Drain System for Biofilm Formation by *Listeria monocytogenes* and Resident Microorganisms from a Seafood Processing Plant. P1-34 IAFP 93rd Annual Meeting Abstract Book. 2006 p.10

D. PÉREZ-CONESA, Lynne A. McLandsborough, and Jochen Weiss Susceptibility of CDC Reactor Grown *Listeria monocytogenes* and *Escherichia coli* O157:H7 Biofilms to Eugenol and Carvacrol Encapsulated in Surfactant Micelles. P5-68 IAFP 93rd Annual Meeting Abstract Book. 2006 p.99.

PÉREZ-CONESA, Lynne A. McLandsborough, and Jochen Weiss. Effect of Antimicrobials Eugenol and Carvacrol Encapsulated in Surfactant Micelles on *Listeria monocytogenes* and *Escherichia coli* O157:H7 Colony Biofilm Growth. P5-69 IAFP 93rd Annual Meeting Abstract Book. 2006 p.99

BEFFA-NEGRINI, P., Cohen, N.L., Olson, R.B., Laus, M.J. and McLandsborough, L. 2005. Food Safety Education for Secondary Teachers and Their Students: An Evaluation of the Food Safety FIRST Online Professional Development Program. National Environmental Health Association Annual Conference Program Book.

L. McLandsborough. *Biofilm formation by Listeria monocytogenes* Extended abstract to keynote address. Japanese Society for the Protection of Food. Tokyo University of Marine Science and Technology. Tokyo, JAPAN. September 8, 2005

A. RODRIGUEZ, J. Weiss and L. A. McLandsborough 2005. Effect of contact time and pressure on the transfer of *Listeria monocytogenes* biofilms from stainless steel surfaces to bologna. Region I Meeting American Society for Microbiology. Cromwell, CT

W. K. SHAW Jr. and L. A. McLandsborough. 2005. Characterization of *Listeria innocua* biofilm formation using Tn917 transposon mutagenesis and arbitrary PCR. International Association of Food Protection Annual Meeting. Baltimore MD. P1-45

M. AVALLONE and L. A. McLandsborough. 2005. Analysis of microbial diversity using denaturant gradient gel electrophoresis and cloning of 16S rDNA. The Institute of Food Technologists Annual Meeting New Orleans, LA. 18D-4

A. RODRIGUEZ and L. A. McLandsborough. 2005. Evaluation of *Listeria monocytogenes* strains within a mixed strain biofilm on stainless steel using RAPD-PCR. The Institute of Food Technologists Annual Meeting, New Orleans, LA. 89E-16

J. LAMANA and L. A. McLandsborough. 2005. Growth of *Staphylococcus aureus* in hydrated fish batter. The Institute of Food Technologists Annual Meeting. New Orleans, LA. 89E-19
M, N Cohen, L McLandsborough, R Brennan Olson, and MJ Laus, 2003. Food Safety Education through Inquiry-Based Learning. Massachusetts Dietetics Association Fall Conference

SHAW JR., W. K. and L.A. McLandsborough. 2003. Characterization of *Listeria innocua* biofilm formation using Tn917 transposon mutagenesis. P182. IAFP 2003 90th Annual Meeting Program and Abstracts.

APOSTILIDES E. and L. McLandsborough. 2003. Characterization of a swarming phenotype of *Listeria innocua* on semi-solid surfaces. P183. *IAFP 2003 90th Annual Meeting Program and Abstracts*.

CRONIN, C., M. Clarke, R. Witkowsky, H. Lui, A. Sayedahmed, RE Levin and L. McLandsborough. 2003. Monitoring of levels and tracking of *Listeria monocytogenes* strains in a seafood processing environment using enrichment MPN and RAPD. P273. *IAFP 2003 90th Annual Meeting Program and Abstracts*.

McLandsborough, L., M. AVALLONE, M. Clarke, R. Witkowsky, H. Lui, A. Sayedahmad, and RE Levin. 2003. Monitoring of microflora present within a seafood processing environment using plating methodology and denaturing gradient gel electrophoresis. *IFT Annual Meeting Book of Abstracts*. IFT Chicago, IL

PRACHIAYO, P., and L. A. McLandsborough. 2001. Growth of *E. coli* O157:H7 in oil-in-water emulsions. 59F-12. *IFT Annual Meeting Book of Abstracts*. IFT Chicago, IL.

DJORDJEVIC D, and L. A. McLandsborough. 2001. Microtiter plate assay for assessment of *Listeria monocytogenes* biofilm formation. 59F-13. *IFT Annual Meeting Book of Abstracts*. IFT Chicago, IL

SHAW, W. K. and L. A. McLandsborough 1999 Rapid preparation of PCR samples from food combined with shortened PCR cycles for the detection of *E. coli*. P7. *IAMFES 86th Annual Meeting*, Dearborn MI.

LI, J. and L. A. McLandsborough. 1999 Electrostatic interaction between emulsion droplets and bacterial cells. 61-8. *pp162 1999 IFT Annual Meeting Book of Abstracts*. IFT. Chicago, IL.

SHAW, W. K. and L. A. McLandsborough. 1999. Shortened PCR reaction for rapid detection and increased sensitivity in a conventional thermal cycler. 65D-2 *p184 1999 IFT Annual Meeting Book of Abstracts*. IFT. Chicago, IL.

PRACHIAYO, P., J. Li and L. A. McLandsborough. 1999. Binding of enterohemorrhagic *E. coli* to isolated meat components. 79C-6. *1999 IFT Annual Meeting Book of Abstracts*. IFT. Chicago, IL.

PRACHIAYO P. and L. A. McLandsborough. 1999. Development of a model system to study the interaction of *E. coli* with beef muscle. Pp. 122. *Proceedings of the 52nd Annual Reciprocal Meat Conference*. American Meat Science Association, Kansas City, MO

AMOAKO-ATTA, C. and L. McLandsborough. 1998. Surface characteristics of bacterial cells after antimicrobial wash treatments. pp.191 *Proceedings of the 51st Annual Reciprocal Meat Conference*. American Meat Science Association, Kansas City, MO

PRACHAIYO, P. and L. McLandsborough. 1998. Enhanced green fluorescent protein expression in *Escherichia coli* to study the penetration of meat. 9-6. pp13 1998 IFT Annual Meeting Book of Abstracts. IFT. Chicago, IL.

SHAW, W. and L. McLandsborough. 1998. Comparison of a PCR-electrophoresis vs a PCR-ELISA method for the rapid and sensitive detection and enumeration of *E. coli*. 17-2. pp.22 1998 IFT Annual Meeting Book of Abstracts. IFT. Chicago, IL.

WU, M. and L. McLandsborough. 1998. Distribution of pathogenic factors among *Escherichia coli* O157:H7 isolate to determine conserved PCR target sequences. 9-3. pp. 13 1998 IFT Annual Meeting Book of Abstracts. IFT. Chicago, IL.

MCLANDBOROUGH, L. A. and P. P. Cleary. 1994. Insertional inactivation of *virR* in *Streptococcus pyogenes* M49 demonstrates that VirR functions as a positive regulator of streptococcal C5a peptidase and M protein in OF⁺ strains. *IVth International ASM Conference on Streptococcal Genetics program and abstracts*. ASM, Washington DC.

MCLANDBOROUGH, L. A. L. Sechaud, and L. L. McKay. 1994. Construction of plasmids which confer enhanced bacteriophage resistance by using phage resistance mechanisms isolated from two different strains of lactococci. *IVth International ASM Conference on Streptococcal Genetics program and abstracts*. ASM, Washington DC.

MCLANDBOROUGH, L. A., R. Requena, and L. L. McKay. 1993. Sequencing and *Tn5* mutagenesis of the bacteriophage abortive infection genetic determinants of plasmid pBF61 from *Lactococcus lactis* subsp. *lactis* KR5. O68. p331. *Abstracts of the 93rd General Meeting of the American Society for Microbiology*. ASM. Washington, DC.

MCLANDBOROUGH, L. A., K. M. Kolaetis, and L. L. McKay. 1992. Cloning and analysis of the bacteriophage abortive infection genetic determinants of plasmid pBF61 from *Lactococcus lactis* subsp. *lactis* KR5. O74 p321. *Abstracts of the 92nd General Meeting of the American Society for Microbiology*. ASM. Washington, DC.

MCLANDBOROUGH, L. and S. R. Tatini. 1989. A six hour microslide immunodiffusion assay for detection of staphylococcal enterotoxins. P29 p323. *Abstracts of the 89th General Meeting of the American Society for Microbiology*. ASM. Washington, DC.

Research Presentations and Invited Talks

Development of delivery systems for essential applications for foods and biofilm removal. Natural & Bio-based Antimicrobials for food applications symposium. 252nd ACS Annual Meeting and Exposition, Philadelphia PA. August, 24, 2016.

Biological and chemical approaches for sprout safety. UMass Strategic Research Alliance Meeting. April 9, 2015.

Development of Antimicrobial Delivery Systems for Foods and Biofilm removal. Symposium. 2013 IFT Annual Meeting. Chicago, IL

Survival, transfer, and inactivation of Salmonella on plastic materials used in tomato harvest. Research Presentation. 2013 Center for Produce Safety Annual Meeting. Rochester, NY

Survival, Transfer and Inactivation of Salmonella on plastic materials used in Tomato Harvest". Tomato Safety Teleconference 2011, organized by the Food and Drug Administration through the University of Florida, Institute of Food and Agricultural Sciences.

Listeria monocytogenes biofilm formation: remediation and transfer. Invited. 2009. US Military Academy Fifth Annual Microbiology Symposium. West Point, NY.

Listeria monocytogenes biofilm formation. Invited. 44th Annual ASM Region I Meeting, October 22, 2009. Cromwell, CT

Listeria monocytogenes growth, destruction and transfer in the food processing environment. March 6, 2007. Invited. MATFORSK, The Norwegian Food Research Institute, Ås Norway

Listeria monocytogenes growth, destruction and transfer in the food processing environment. Oct. 16, 2006. Invited. Department of Microbiology Lecture Series. UMass Amherst, MA

Biofilm formation by Listeria monocytogenes September 8, 2005. Keynote address. Japanese Society for the Protection of Food. Tokyo University of Marine Science and Technology. Tokyo, JAPAN.

Listeria monocytogenes biofilms adhere to stay. May 5, 2005. Annual Strategic Research Alliance Meeting. Department of Food Science, University of Massachusetts, Amherst

Biofilm formation of Listeria monocytogenes. Sept 25 2002. Invited. Veterinary and Animal Sciences Seminar Series. UMass Amherst, MA

Listeria monocytogenes biofilm formation in the food industry. Oct 20, 2001. Invited Department of Biology Seminar, Rhode Island College, Providence, RI.

Biofilm formation by Listeria monocytogenes. May 3, 2001. Annual Strategic Research Alliance Meeting. Department of Food Science, University of Massachusetts, Amherst

Bacterial adhesion to foods and processing surfaces. November 3, 2000. Invited lecture for the Department of Animal Science, University of Connecticut, Storrs, CT.

Surface Growth: From biofilms to funky colonies. October 11, 2000. Invited lecture for the Department of Food Science, Utah State University, Logan UT.

Bacterial adhesion and implications for food safety. March 31, 2000. Invited lecture as a portion of a Food Safety lecture series hosted by the Department of Food Science and Nutrition, University of Illinois, Urbana IL.

Use of bioluminescent and fluorescent bacteria to study foodborne pathogens. June 23, 1999. 52nd Annual Reciprocal Meat Conference, Oklahoma State University, Stillwater, OK

Food Microbiology Beyond Numbers: interactions between bacteria and foods. April 23, 1998. Annual Strategic Research Alliance Meeting. Department of Food Science, University of Massachusetts, Amherst

Professional Activities and Outreach

Grant Review Panels

US Department of State, Institute of International Education Global Innovation Initiative: *Agriculture, Food Security and Water Panel 1*. Tier 1 Reviewer 2013-2014

Fulbright Scholar Special Review Committee on Food Technology and Nutrition 2005

USDA National Research Initiative Grant Program *Food Characterization/Process/ Product Research* 2001

USDA Small Business Innovation Research Grant Program: *Food Science and Nutrition* 1998

USDA National Research Initiative Grant Program: *Ensuring Food Safety* 1998

Certifications:

Preventative Controls Qualified Individual

Lead Instructor of the FSPCA Preventive Controls for Human Food Course

International HACCP Alliance *HACCP Trainer*

State: Committees

Academic Technical Advisor to the Food Establishment Advisory Committee (FEAC), Dept of Public Health, Commonwealth of Massachusetts, Food Protection Program

Specialty Panels

Participant in FAO Expert Consultation on the trade impact of *Listeria* in fish products, May 17-20, 1999

Journal Editorial Boards

Food Biotechnology (2001-current)

Food Protection Trends (2006- 2008)

Journal of Food Safety (2006-2009)

Associate Editor Journal of the Science of Food and Agriculture (2004-2007)

Journal of Food Protection (2001- 2003)

Ad Hoc Manuscript Reviewer

Applied and Environmental Microbiology

Biofouling

Critical Reviews in Food Science

Food Biophysics

Food Microbiology

International Journal of Food Microbiology

Journal of Dairy Science

Journal of Food Protection

Microbiology

PIOS One

Professional Memberships

American Society for Microbiology

International Association of Food Protection

Institute of Food Technologists

American Chemical Society

Activities within Professional Organizations

Member, International Food Science Certification Commission (2014-2017)

Chair, IFT Biotechnology Division (2009-2010)

Session Moderator, Food Biotechnology Division Lecture, IFT National Meeting, 2010

Session Moderator, New Products and Technologies, IFT National Meeting 2010

Session Moderator, Intentional Association of Food Protection National Meeting 2007

Member-at-large, IFT Biotechnology Division Executive Board (2006-2008)

Member, IFT New Products and Technologies Programming Sub-Committee (2006-2009)

Judge, IFT Undergraduate Paper Competition, 2007

Abstract review, IFT Food Microbiology Division (2006)

IFT Continuing Education Initiative Task Force (2006)
Member, IFT Career Development Skills Committee (2004-2006)
National Advisor, Student Association of the Institute of Food Technologists
(1997 - 2000)
Member, IFT Committee on Sections and Divisions (1997 - 2000)
Judge, IFT Food Microbiology Graduate Paper Competition, 1997
Session Chair, Spring 1997 meeting of the New England Society of Industrial Microbiology

University Representative

Planning meetings of the Northeastern Region Land-Grant University Consortium Food Safety Initiative (SAFER). (1997 - 2000)

ISELKI Mundus 2. Internationalization and sustainability of ISEKI Food Network. 1st Overall Meeting. Gothenburg, Sweden (July 2009)

Short Course and Outreach Presentations

Better Process Control School. UMass Extension. Taught Introduction to Microbiology and Acidified Foods. 2013, 2014, 2015, 2016, and 2017

Introduction to HACCP. UMass Extension. Taught introduction to microbiology. January 2014 and 2015

Assuring Food Safety of Value-Added Products: Development of HACCP plans for Small Scale or Home Businesses. Feb. 3, 1998. Northeast Farmers' Direct Marketing Conference, Sturbridge, MA.

Food Micro 101 Oct. 22, 1997. Safe Food Processing, First Annual Northeast Conference. Saratoga Springs, NY.

Safe-Serv Across the State: Food Safety. Oct. 1996. Multi-location lecture using Picture-Tel technology from University of Massachusetts, Amherst.

Food Safety: Introduction and Current Issues Jan. 31, 1996; Jan. 17 and 24, 1997; Jan 14 and 22, 1998. Guest Lecture. Nutrition 219. *Food: Technical, Distribution, and Marketing.* Tufts University School of Nutrition Science and Policy, Boston, MA.

Consultation

Consultant to Parker Hannifin Corporation, Haverhill, MA
Consultant to Tribe, Mediterranean Foods, Tauton, MA
Consultant to Stonewall Kitchens, York, ME
Consultant to Conagra/Lightlife Foods, Turnersfall, MA
Consultant to Cricket Creek Farm, Williamstown, MA

Consultant to Expressive Constructs Inc., Worcester, MA
Consultant to SafeScience, Boston, MA
Consultant to Garelick Farms Inc, Franklin, MA
Consultant to Ion Physics Inc, Atkinson, NH
Consultant to Vicam Inc., Watertown, MA.
Consultant to Friendly Ice Cream, Wilbraham, MA
Phone consultations to various local Massachusetts companies
Phone consultations to members of the Department's Strategic Research Alliance

University Committees

Departmental

Undergraduate Program Director and Chief Undergraduate Advisor (2000 – Current)
Undergraduate Recruiting Committee (1995 - current), Chair (1996 - 2000)
Food Science Club Advisor (1996 – 1998, 2000 -2001, 2006 - 2007)
Graduate Program Committee (1998 - 2000)
Personnel Committee (1996 - 1997, 1999 – 2000, 2003-2004, Chair, 2004-05, Chair 2005-2006, 2007-2007, 2007-2008, 2008-2009, 2009-2011, 2016-2017, Chair 2014-15. 2015-2016)
Teaching Evaluation Coordinator (1996 - 2006)
Search Committee (Food Chemist Position, 2007)
Search Committee (Jack Francis Chair of Food Science, 2004)
Department Head Search Committee Chair: (2008)
Food Safety Extension Search Committee Chair (2011)
Director of UMass Summer Scholar Program (2008)

College of Food and Natural Resources

College Personnel Committee (2006-2009, Chair Spring 2009)
Curriculum Committee (1998 – 2001)
Undergraduate Advisors Committee (2000-2009)

College of Natural Sciences

Curriculum Committee (2009-current)
CNS Awards Committee (2009-2011)
Undergraduate Advisors Committee (2009-current)
Life Sciences Ad-Hoc Curriculum Committee (Spring 2010)

Commonwealth Honors College

Member Grant and Fellowship Selection Committee (2013)

Other Departments

Search Committee for Associate Biosafety Officer, UMass Environmental Health and Safety (2013 and 2016)
Search Committee for Food Safety Extension Assistant Professor (Nutrition Department) (2006)
Search Committee for Microbiology Department Head (Chair) (2005-2006)

Search Committee for Department of Microbiology (2004)

University

Institutional Biosafety Committee, Member, (2005-2009), Chair (2009-current)

Status of Woman Council

Member, REU Coordinators Council (2008)

UMass Extension Food Safety Issue Planning Team

Teaching and Mentorship Experience

Advising

National Advisor to the Student Association of the Institute of Food Technologists 1997-2000
Departmental Chief Undergraduate Advisor (2001 – current)

Teaching Awards

College of Food and Natural Resources Certificate for Excellence in Teaching, December 2000
College of Food and Natural Resources Outstanding Teacher Award, Dec 2001

Teaching Enhancement

Attended 1996 Northeast Regional Teaching Workshop: *Teaching and Learning through Cases and Discussion*. October 3-5, 1996. University of Maryland, College Park, MD.
Participated in mid-semester teaching evaluations through the University of Massachusetts Center for Teaching.

Teaching Materials

L. McLandsborough. *Food Microbiology Laboratory*. CRC Press, Boca Raton, FL. 2004.
W. K. Shaw Jr and L. McLandsborough. *Instructor's guide to Food Microbiology Laboratory*. CRC Press, Boca Raton, FL. 2004.

Classroom Teaching (University of Massachusetts)

Food Microbiology (FD Sci 467) (both semesters 1995-1999)

Food Microbiology (FD SCI 467), Fall 1995, 4 credits 50% teaching responsibility
Food Microbiology (FD SCI 467), Spring 1996, 4 credits 100%
Food Microbiology (FD SCI 467) Spring 1997, 4 credits 100%
Food Microbiology (FD SCI 467) Fall 1997, 4 credits 100%
Food Microbiology (FD SCI 467) Spring 1998, 4 credits 100%
Food Microbiology (FD SCI 467) Fall 1998, 4 credits 100%
Food Microbiology (FD SCI 467) Fall 1999, 4 credits 100%
Food Microbiology (FD SCI 467) Fall 2000, 4 credits 100%

Hygienic Principles of Food Handling (Fd Sci 466) Spring Semester (1999 – 2009)

Hygienic Principles of Food Handling (FD SCI 466) Spring 1999, 4 credits 50%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2000, 4 credits, 100%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2001, 4 credits, 100%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2003, 4 credits, 50%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2004, 4 credits, 100%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2005, 4 credits, 100%
Hygienic Principles of Food Handling (FD SCI 466) Spring 2007, 4 credits, 100%

Hygienic Principles of Food Handling (FD SCI 466), Spring 2009 4 credits, 100%

Food Microbiology (FD SCI 567/566) Fall Semester (2001-Present)

Food Microbiology (FD SCI 567/566) Fall 2001, 5 credits 100%
Food Microbiology (FD SCI 567/566) Fall 2002, 5 credits 100%
Food Microbiology (FD SCI 567/566) Fall 2003, 5 credits 100%
Food Microbiology (FD SCI 567/566) Fall 2004, 5 credits 100%
Food Microbiology (FD SCI 567/566) Fall 2005, 5 credits 100%
Food Microbiology (FD SCI 567/566) Fall 2006, 5 credits, 100%
Food Microbiology (FD SCI 567/566) Fall 2007, 5 credits, 100%
Food Microbiology (FD SCI 567/566) Fall 2008, 5 credits, 100%
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Food Microbiology (FD SCI 567/566) Fall 2011, 5 credits, 100%
Food Microbiology (FD SCI 567/566) Fall 2012, 5 credits, 100%
Food Microbiology (FD SCI 567/566) Fall 2013, 5 credits, 100%
Food Microbiology (One section FD SCI 567, two sections Fd Sci 566) Fall 2014, 5 credits, 100%
Food Microbiology (One section FD SCI 567, two sections Fd Sci 566) Fall 2015, 5 credits, 100%
Food Microbiology (One section FD SCI 567, two sections Fd Sci 566) Fall 2016, 5 credits, 100%

Survey of Food Science (FD SCI 265)

Survey of Food Science (FD SCI 265) Fall 2003, 4 credits
Survey of Food Science (FD SCI 265), Fall 2009, 4 credits
Survey of Food Science (FD SCI 265), Fall 2010, 4 credits

Topical Problems in Food Microbiology (FD SCI 797M)

Topical Problems in Food Microbiology (FD SCI 797M), Spring 2013, 3 credits, 100%
Topical Problems in Food Microbiology (FD SCI 797M) Spring 2015, 3 credits 100%
Topical Problems in Food Microbiology (FD SCI 797M) Spring 2017, 3 credits 100%

Advising

Undergraduate Academic Advising

Undergraduate Advisor (1996 - current)

Currently a total of 20 Undergraduate Food Science Majors report primarily to me.

Post-Doctoral Research Fellows

John Cotter (January 2011 – 2013)

Yuhua Chang (Septemeber 2010 – 2012)

Yumei Dai (September 2008 – July 2009)
Dalal Asker (September 2008 – July 2009)
Weimin Gu (December 2008 – March 2009)
Jun Cao (Fall 2004 –September 2008)
Dario Perez Conesa (Spring 2005 – 2006)
Jack Li (1998 - 1999)

PhD Students

Kyle Landry (2012- 2016)
Chanelle Adams (2010- 2014)
Imelda Tirtajaya (2009- 2014)
Yuhua Chang (2006 – 2010)
Andres Rodriguez (2004 – 2007)
William Shaw (2001 –2004)
Preyatudsaney Prachiayo (1999- 2003)

MS Students

Nicholas Bernus (2017-current)
Madeline Tucker (2016-current)
Parita Patel (2016-current)
Brett Boulden (2015- 2016)
Victor Ryu (2015-2016)
Dillon Murray (2013-2015)
Lufan Wang (2013-2015)
Kaitlin Ewald (2011- 2012)
Fujia Zhang (2008 – 2010)
Elsina Hagan (2008 – 2010)
Ejowoke Ememu (2008 – 2010)
Imelda Tirtajaya (2005 – 2007)
Jessica Lamana (2004 – 2006)
Caroline Cronin (2002 - 2012)
Chris Aurand (2007 –)
Michael Avallone (2003 –2005)
Emmanouil Apostilides (2001 –2003)
William Shaw (1997 –2001)
Darinka Djordjevic (1999 –2001)
Cynthia Amoako-Atta (1997 - 1999)
Preyatudsaney Prachiayo (1996 - 1999)
Michelle Wu (1996 - 1999)

Undergraduate Research Projects

Michaele McGregor (Fall 2016-present)
Tim Avery (Summer 2015-Spring 2016)
Ting Xu (Fall 2014-Summer 2015)

Zach Rosenthal (Summer 2014 – Spring 2015)
Nancy Zou (Fall 2014-Spring 2015)
Danielle Faivre (Spring 2013)
Nils Fischer (Summer 2010)
Kaitlin Ewald (Fall 2009)
Lauren Plazek (Spring 2008)
Michael Miller (Fall 2006-Spring 2007)
Faith Rivers (Summer 2004)
Jessica Lamana (Fall 2002-Spring 2003)
Chris Kosteck (Spring 2000)
Emmanouil Apostolidis (Spring 2000)
Igor Gurevich (Summer 1999 - Spring 2000)
Mathew Clark (Fall 1999-Spring 2000) *Honors Thesis*
Karen Pekarski (Fall 1999)
Ulrike Boecker (Spring 1999)
Craig Labadie (Spring 1998 - Fall 1999)
Bukola Adekemi (Fall 1997)
Adebunmi Abdul (Fall 1997 - Fall 1998), *Honors Project*
Jason Coles (Spring 1997)
Mathew Labbe (Fall 1995 - Spring 1997)
Houng K. Huynh (Spring 1996 - Spring 1997)

Visiting Researchers

Yayoi Chujo from Japan (Sept 2015-Aug 2016)
Sachie Nagano from Japan (April 2000 - 2001)
Akiyo Horri from Japan (April 1998-1999)

Graduate Examination Committees

Ph.D. Students 18
MS Students 22

Science Teacher Education in Food Safety

I was a co-PI on a USDA Integrated Research, Education and Extension Competitive Grants Program entitled *Online Education for Secondary Science Teachers: An Integrated Approach to Food Safety Training*. \$549,994.(10/1/02 – 9/30/05). This project was performed in cooperation with the National Science Teachers Association. The objective was to evaluate the hurdles preventing integration of food safety into the science classrooms, design an online course and teaching materials and to evaluate the impact of the teaching program.

For this program I performed the following:

- Science Teachers Workshop: Introducing the concepts of Food Safety through hands-on classroom activities. 9/6/2003.

- Development of teaching materials
 - Food Safety FIRST course for Science Teachers CD. **Videos:** Using Gloves, Washing Hands, Making Agar, Using a Pressure Cooker, Swabbing Plates, Don't cross me lab Demonstration, Cooking Right-Temperature Investigation Lab Demonstration, **classroom presentations:** Laboratory Safety for Middle and High School classrooms, Microbial Growth in Food, The Food Safety Four C's, The 12 Most Unwanted Bacteria and an **interactive activity** Microbe match.
 - M. Mattingly and L. McLandsborough in cooperation with the USDA. FOOD SAFETY FIRST Microbial Growth Simulation Program for high school and middle school students. Food Safety First web page <http://www.foodsafetyfirst.org/fsf_mgsp.html>. 2004
- Co-Instructor (10%) UMass Online, Continuing Education courses Food Safety FIRST module 1 HEA 115 Bacteria Everywhere, module 2 HEA 116 Food Handling is a Risky Business and module 3 HEA 117 Food Fights: Current Controversies in Food Science from 4/12-7/25/2004 (1 cr. if all three courses taken)

Student Evaluations of Teaching Performance

Overall Average for Each Course

Food Microbiology (FD SCI 467)

Fall 1995 Overall Average Evaluation: 5.19/7.00
Spring 1996: Overall Average Evaluation: 4.42/5.00
Spring 1997: Overall Average Evaluation: 4.36/5.00
Fall 1997: Overall Average Evaluation: 4.52/5.00
Spring 1998: Overall Average Evaluation: 4.60/5.00
Fall 1998: Overall Average Evaluation: 4.61/5.00
Fall 1999: Overall Average Evaluation: 4.62/5.00
Fall 2000 Overall Average Evaluation 4.76/5.00

Hygienic Principles of Food Handling (FD SCI 466)

Spring 1999: Overall Average Evaluation: 4.62/5.00
Spring 2000: Overall Average Evaluation: 4.49/5.00
Spring 2001 Overall Average Evaluation 4.39/5.00
Spring 2003 Overall Average Evaluation 4.15/5.00
Spring 2004 Overall Average Evaluation 4.57/5.00
Spring 2006 Overall Average Evaluation 4.46/5.00
Spring 2007 Overall Average Evaluation 4.34/5.00
Spring 2009 Overall Average Evaluation 4.46/5.00

Food Microbiology (FD SCI 567/566)

Fall 2001 Overall Average Evaluation 4.61/5.00
Fall 2002 Overall Average Evaluation 4.50/5.00
Fall 2003 Overall Average Evaluation 4.61/5.00
Fall 2004 Overall Average Evaluation 4.57/5.00
Fall 2005 Overall Average Evaluation 4.46/5.00
Fall 2006 Overall Average Evaluation 4.59/5.00
Fall 2007 Overall Average Evaluation 4.55/5.00
Fall 2008 Overall Average Evaluation 4.34/5.00
Fall 2009 Overall Average Evaluation 4.68/5.00
Fall 2010 Overall Average Evaluation 4.34/5.00
Fall 2011 Overall Average Evaluation 4.58/5.00
Fall 2012 Overall Average Evaluation 4.55/5.00
Fall 2013 Overall Average Evaluation 4.46/5.00
Fall 2014 Overall Average Evaluation 4.61/5.00
Fall 2015 Overall Average Evaluation 4.78/5.00

Survey of Food Science (FD SCI 265)

Fall 2009 Overall Average Evaluation: 4.54/5.00
Fall 2010 Overall Average Evaluation: 4.25/5.00