

## Curriculum Vitae

### ELLIOT T. RYSER, Ph.D.

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#### EDUCATION

Carroll College, Waukesha, WI	B.S.	1979	Biology
University of Wisconsin - Madison	B.S.	1980	Bacteriology
University of Wisconsin - Madison	M.S.	1982	Food Microbiology
University of Wisconsin - Madison	Ph.D.	1990	Food Safety

#### PROFESSIONAL EXPERIENCE

*Professor - Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI. July 2008 to present.*

*Associate Professor - Department of Food Science and Human Nutrition, Department of Animal Science and the National Food Safety and Toxicology Center - Michigan State University, East Lansing, MI. July 2004 to June 2008.*

*Assistant Professor - Department of Food Science and Human Nutrition, Department of Animal Science and the National Food Safety and Toxicology Center - Michigan State University, East Lansing, MI. February 1998 to June 2004.*

**Research (70%):** Quantitative transfer of *Escherichia coli* O157:H7, *Salmonella* and *Listeria monocytogenes* during production of fresh-cut fruits and vegetables including lettuce, tomatoes, cantaloupe, celery, and onions; sanitizer efficacy during washing of fresh produce as influenced by organic load in the wash water; pathogen growth/survival in fresh-cut produce during commercial transport, retail storage and display as influenced by the type of packaging; cross-contamination of deli meats with *Listeria monocytogenes* during mechanical slicing; incidence of *Listeria* in retail deli meats; persistence of *Listeria* in biofilms; pathogen inactivation using X-ray irradiation; pathogen migration and thermal resistance in marinated whole-muscle meat and

poultry products; optimizing the design and operation of commercial cooking systems for ready-to-eat meat and poultry products; thermal inactivation of sublethally injured *Salmonella* in fresh meats and low moisture foods; pathogen contamination and microbial diversity in poultry processing facilities; microbiological standards for blueberries; development of edible antibacterial films and casings from whey protein; reduction of *Listeria*, *Salmonella* and *E. coli* O157:H7 on alfalfa sprouts, lettuce, cantaloupe, berries and apples using chlorine dioxide gas and various sanitizers; microbial safety and quality of fermented and non-fermented dairy products.

### **Teaching (30%):**

#### ***Undergraduate Instruction***

***ANS 210 - Animal Products.*** (4 credits, lecture and lab, Fall 1998 to Fall 2004).

Course Description: Edible animal products. Processing, preservation, storage and distribution of dairy, meat, and egg products, three week section on production of fluid and dry milk products, butter, ice cream, cheese and yogurt. Last enrollment: 110 students.

***FSC 342 - Food Safety and Hazard Analysis Critical Control Point Systems*** (3 credits, every Fall since 1999).

Course Description: Overview of all bacterial, parasitic and viral foodborne pathogens and associated toxins; sources of microbiological, chemical and physical hazards; minimizing microbial growth and survival; good manufacturing, cleaning and sanitation practices; development of Hazard Analysis Critical Control Point Programs for the food processing and food service industries. Optional HACCP Certification through the International HACCP Alliance, College Station, TX Last enrollment: Last enrollment: 140 students. Since 1999, over 600 students have become HACCP certified.

***FSC 442 - Hazard Analysis Critical Control Point Systems*** (1 credits, every Fall since 2015)

Course Description: Good manufacturing, cleaning and sanitation practices; development of Hazard Analysis Critical Control Point Programs for the food processing and food service industries. HACCP Certification through the International HACCP Alliance, College Station, TX

***FSC 490 - Special Problems in Food Science*** (1 credit, since fall 1999)

Course Description: Supervised laboratory work related to my current research program; HACCP certification.

#### ***Graduate Instruction***

***FSC 842 - Foodborne Diseases*** (3 credits, lecture; odd years since spring 1999).

Course Description: Epidemiology, isolation, characterization, clinical manifestations, pathogenicity, incidence and control of bacterial, parasitic and viral foodborne pathogens and associated toxins. Last enrollment: 10 students

***FSC 860 - Research in Food Processing Technology*** (2 credits, lecture and lab, Summer 1999).

Course Description: Theory, application, and evaluation of food processing technology: ultrafiltration, food irradiation, and critical point extraction.

***FSC 891 – Special Problems in Food Science – Biotechnology and Food Fermentations*** (3 credits, lecture; odd years since 2011)

Course Description: Overview of Biotechnology and food fermentations as related to starter cultures and fermentation pathways for fermented dairy, meat and beverage products.

***Research Associate - Department of Animal and Food Sciences, University of Vermont, Burlington, VT. March 1994 - January 1998***

Research (100%): Automated ribotyping of *Listeria* spp.; impact of enrichment media on recovery of different *Listeria* ribotypes from fresh meat and poultry products; prevalence of *Listeria* spp. in goat's milk; quantification of coliforms and *E. coli* in apple cider; impact of pH on distribution of *Listeria* ribotypes in corn, hay and grass silage; dairy cattle and silage as potential sources of *Listeria* ribotypes common to dairy processing facilities; identification of heterofermentative lacobacilli responsible for slit defect in Cheddar cheese; fate of *Listeria* in yogurt.

Additional responsibilities: write research grants for external funding; supervise and partially direct the research efforts of graduate students and visiting faculty; served as a scientific advisor to state officials, area food companies and farmstead cheese operations in solving microbiologically related problems. Develop and taught several courses on cheese-making and apple cider production.

***Research Project Manager - Silliker Laboratories Group, Inc., Chicago Heights, IL. February 1992 - December 1993.***

Research. Planned, conducted and supervised various internal and external client-sponsored research projects, including microbial challenge and shelf-life studies, thermal inactivation trials, methods evaluations and culture identifications. Taught portions of two short courses on *Listeria*.

***Research Scientist - Institute National de la Recherche Agronomique, Station de la Recherches Laitieres. Jouy-en-Josas, France. February - March 1990, August 1990 - August 1991.***

Research. Developed methodology for and identified naturally occurring strains of enterococci, staphylococci, *Brevibacterium linens* and *Corynebacterium* spp. capable of inhibiting growth and survival of *Listeria* spp. on the surface of smear-ripened cheeses.

***Research Assistant - Department of Food Science, University of Wisconsin - Madison. January 1984 - September 1990.***

Ph.D. Dissertation: Fate of *Listeria monocytogenes* during manufacture and storage of cottage, Camembert, Cheddar and brick cheeses and cold-pack cheese food; growth of *L. monocytogenes* in cheese whey, increased recovery of *L. monocytogenes* from cheese.

***Research Assistant - Department of Food Science, University of Wisconsin - Madison. September 1980 - June 1982.***

M.S. Thesis: Amine formation by Gram-negative bacteria.

## HONORS AND AWARDS

International Association for Food Protection: Harry Haverland Citation Award – 2016

*This award recognizes an active IAFP member for many years of dedication and devotion to the association and its ideals and objectives.*

Michigan State University – Farm Lane Society Founding Member – 2016

*The mission of the Farm Lane Society is to honor individuals who have demonstrated a commitment to the Michigan State University College of Agriculture and Natural Resources as a CANR Alumni Association Board member or have brought honor to the College as a notable recipient of a CANR Alumni Association Award or the CANR Distinguished Service Award and to foster their continuing involvement in the College and Alumni Association.*

International Association for Food Protection: GMA Food Safety Award – 2015

*This award alternates between individuals and groups or organizations. In 2015, the award will be presented to an individual for highly significant food safety development or in recognition of a long history of outstanding contributions to food safety*

International Association for Food Protection: Journal of Food Protection Most Cited Review Paper Award – 2014. Wesche, A.M., J.B. Gurtler, B.P. Marks, and E.T. Ryser. 2009. Stress, sublethal injury, resuscitation, and virulence of bacterial foodborne pathogens. *J. Food Prot.* 72(5):1121-1138.

Michigan State University – College of Agriculture and Natural Resources: Distinguished Faculty Award 2013. *Given to faculty who have brought distinction to the college through teaching, extension or research, and have provided leadership that has helped students, faculty or citizens to reach their potential for excellence.*

Institute of Food Technologists: Certified Food Scientist 2013 - 2023. *Given in recognition of lifetime professional accomplishments, practical knowledge and commitment to lifelong learning.*

Institute of Food Technologists: Fellow Award – 2011

*The IFT Fellow designation is an honor bestowed upon an IFT member by their peers, recognizing exemplary professionalism in the field of food science. In a given year, no more than 0.3 percent of the professional membership is eligible, and even fewer than that will earn this honor.*

International Association for Food Protection: President's Recognition Award – 2011

*The President's Recognition Award is given at the discretion of the IAFP President for exceptional service.*

International Association for Food Protection: Maurice Weber Laboratorian Award – 2011

*The Maurice Weber Laboratorian Award is presented to an IAFP Member for dedicated and exceptional contributions in the laboratory. It recognizes a commitment to the development and/or application of innovative and practical analytical approaches in support of food safety.*

International Association for Food Protection: Fellow Award – 2010

*The Fellows Award honors and recognizes IAFP Members who have contributed to the Association and its Affiliates with distinction over an extended period of time.*

International Association for Food Protection: Elmer Marth Educator Award – 2007

*The Elmer Marth Educator Award recognizes an active IAFP Member for dedicated and exceptional contributions to the profession of the Educator.*

Michigan State University: Libraries, Computing and Technology - Book Recognition Award for *Listeria, Listeriosis and Food Safety*, 2007.

Michigan State University: Carl G. Smith Award for Excellence - 2006

Michigan State University: Libraries, Computing and Technology - Book Recognition Award for *Listeria, Listeriosis and Food Safety*, 2000.

8th International Workshop on Rapid Methods and Automation in Microbiology, Kansas State University, Manhattan, KS: Fellowship 1988.

American Dairy Science Association: The National Milk Producers Federation Richard M. Hoyt Award, 1988. This award is given to recognize research efforts with direct application to problems of the U.S. dairy industry

Institute of Food Technologists: Midwest Food Processing Conf. Graduate Student Paper Competition - 3rd Place, 1987.

International Association of Milk, Food and Environmental Sanitarians (now IAFP): Developing Scientist Award - 2nd Place, 1987.

International Association of Milk, Food and Environmental Sanitarians (now IAFP): Developing Scientist Award - 2nd Place, 1986.

## **PROFESSIONAL MEMBERSHIPS AND ACTIVITIES**

International Association for Food Protection: 1981 - present

Scientific Editor - *Journal of Food Protection*, 2005-present

*Journal of Food Protection* Management Committee: 2002-present

Editorial Board - *Journal of Food Protection*, 1993- present

IAFP Maurice Weber Laboratorian Award Selection Committee, 2014 - 2016

IAFP Harry Haverland Award Selection Committee, 2019-2021

IAFP Fellow Award Selection Committee, 2012 - 2014

GMA Food Safety Award Selection Committee - 2011

Developing Scientist Award Selection Committee - 2004

Black Pearl Award Selection Committee - 2001

Institute of Food Technologists: 1981 – present

Higher Education Review Board: 2016 - 2020

Scientific Editor: *Journal of Food Science* - Food Microbiology and Safety, 2000 – 2004

Fruit and Vegetable Division – Abstract reviewer for Annual Meeting, 2009, 2013

Chair - Graduate Student Paper Competition, Food Microbiology, 2004, 2007

Chair - Graduate Student Paper Competition, Dairy Foods Division, 1996

Great Lakes Section - Secretary 1998 - 2001

American Society for Microbiology: 1980 – present

American Dairy Science Association: 1985 - 2006

Marschall Rhodia International Dairy Science Award Selection Committee, 2003 - 2005

National Alliance for Food Safety and Security

Associate Director of the Center for Microbial Physiology and Ecology, 2006-2007

Director of the Center for Microbial Physiology and Ecology, 2007-2008

Board of Directors – Vice Chair, 2008-2009  
Board of Directors – Chair, 2009-2010  
USDA Multistate Research Project – Food Safety: MSU Representative, 1999 - present  
International Symposium on Problems of Listeriosis - International Scientific Board 2001  
Dairy Practices Council: 1995 - 2005  
Council of Science Editors: 2000 - 2002  
Michigan Apple Committee: 1998 - 2003  
Michigan Environmental Health Association: 1999 - present  
Vermont Dairy Industry Association: 1995 - 1997  
Board of Directors, 1996-1997  
Vermont Apple Cider Task Force: 1995 - 1997  
Scientific Advisor 1996 - 1997  
Vermont Fresh Produce Task Force: 1995 - 1997  
Scientific Advisor 1996-1997  
Gamma Sigma Delta  
Sigma Xi: 1986 – 2005  
Editorial Board:  
*International Journal of Food Microbiology*  
*International Journal of Dairy Technology*  
*Journal of Food Safety*  
*Journal of Food Protection*  
*Springer Book Publishers – Food Science and Technology Series*  
Advisory Boards  
*Food Microbiology and Food Safety Series, Springer Publishing*  
Ad Hoc Reviewer: Journals  
*African Journal of Agricultural Research*  
*African Journal of Food Science*  
*African Journal of Microbiology Research*  
*AIMS Microbiology*  
*Anaerobe*  
*Anti-Infective Agents*  
*AOAC International*  
*Applied and Environmental Microbiology*  
*Applied Biotechnology, Food Science and Policy*  
*Biochimica et Biophysica Acta*  
*Bioresource Technology*  
*Biotechnology Progress*  
*BMC Public Health*  
*British Food Journal*  
*Canadian Journal of Microbiology*  
*Critical Reviews in Food Science and Nutrition*  
*Food Chemistry*  
*Food Control*  
*Food Microbiology*

*Food Microbiology Review*  
*Food Processing and Technology*  
*Food Research International*  
*Food Reviews International*  
*Food Science and Technology International*  
*Food Service International*  
*Foodborne Pathogens and Disease*  
*Frontiers in Microbiology*  
*Heliyon*  
*Innovative Food Science and Emerging Technologies*  
*Italian Journal of Food Science*  
*International Dairy Journal*  
*International Journal of Dairy Technology*  
*International Journal of Environmental Research and Public Health*  
*International Journal of Food Microbiology*  
*International Journal of Food Science and Technology*  
*Journal of Agricultural and Food Chemistry*  
*Journal of Agricultural Science and Technology*  
*Journal of Applied Microbiology*  
*Journal of Bacteriology Research*  
*Journal of Dairy Science*  
*Journal of Food Engineering*  
*Journal of Food Process Engineering*  
*Journal of Food Processing and Preservation*  
*Journal of Food Quality*  
*Journal of Food Safety*  
*Journal of Food Science*  
*Journal of Photochemistry and Photobiology*  
*Journal of Visualized Experiments*  
*Journal of Water and Health*  
*Le Lait*  
*Letters in Applied Microbiology*  
*LWT-Food Science and Technology*  
*Meat Science*  
*Michigan Dairy Review*  
*Microbial Risk Analysis*  
*MOJ Food Processing and Technology*  
*New Zealand Journal of Marine and Freshwater Research*  
*Packaging Technology and Science*  
*Postharvest Biology and Technology*  
*SDRP Journal of Food Science and Technology*  
*Thermochimica Acta*  
*Veterinary Sciences*

Ad Hoc Reviewer: Books

*The Quarterly Review of Biology*

Ad Hoc Reviewer: Other

*Encyclopedia of Animal Science*, 2<sup>nd</sup> Edition

Grant Reviews: Panels

NIH-SBIR Program: Bethesda, MD, 1999

USDA-NRI: Food Safety Washington, DC, 2002

USDA-CSREES: Integrated Food Safety, Washington, DC, 2004

USDA-NIFA: Food Safety, Washington, DC, 2013

Grant Reviews: Ad Hoc

USDA-NRI

NIH-SBIR

USDA-SBIR Program

CSREES-NIFSI

University of Vermont

National Sciences and Engineering Research Council of Canada

Sea Grant

National Food Safety and Toxicology Center: Food Safety - Michigan State University

Leopold Center for Sustainable Agriculture - Iowa State University

Rackham Fund - Michigan State University

Kentucky Science and Engineering Foundation

American Institute of Biological Sciences

Jeffrees Trust – Bank of America

Center for Produce Safety: UC-Davis

National Government of Greece – Thalys Project

National Government of Greece – Archimedes Project

Shota Rustaveli National Science Foundation - Tbilisi, Georgia

Maine Agricultural and Forest Experiment

Fundação para a Ciência e a Tecnologia, Lisbon, Portugal

Research Grants Council - Hong Kong, China

Binational Agricultural Research and Development Fund US-Israel

National Science Center, Krakow, Poland

Mitacs Elevate Postdoctoral Research Program, Toronto, Canada

Other Reviews:

FDA Draft Qualitative Assessment of Risk to Public Health from On-Farm Contamination of Produce – 2013

FDA Risk Assessment for *Listeria monocytogenes* in Smoked Salmon – 2011

FDA/CFSAN Review Panel: 2007

FAO/WHO Risk Assessment of *Listeria monocytogenes* in ready-to-eat foods – 2002

American Institute of Biological Sciences

AOAC Research Institute Performance Tested Methods Program: 2003 – present

Atlas<sup>®</sup> *Listeria* Environmental LE Detection Modification



Eurofin GeneScan BASGene Listeria  
Eurofin GeneScan BACSpec Listeria ELISA  
Sample6 Detect/L PTM  
ANSR *Listeria monocytogenes*  
ANSR *Listeria*  
SureTect *Listeria* spp matrix extension  
SureTect *Listeria monocytogenes* Assay Matrix Extension  
Atlas E. coli O157:H7 EG2 Detection Assay Modification  
QIAGEN *mericon*<sup>®</sup> *Listeria* spp. Kit  
QIAGEN *mericon*<sup>®</sup> *Listeria monocytogenes* spp. Kit  
QIAGEN *mericon*<sup>®</sup> *Salmonella* spp. Kit  
Atlas *Listeria monocytogenes* Detection Assay  
Neogen ANSR<sup>™</sup> *Listeria* Detection Assay  
QIAGEN *mericon*<sup>®</sup> *Salmonella* spp. Kit  
Thermo Scientific SureTect *Listeria* species Assay  
InstantLabs<sup>®</sup> *Listeria* Species Food Safety Kit  
Atlas *Salmonella* G2 Assay  
Roka Bioscience Atlas *Salmonella* G2 Detection Assay  
Crystal Diagnostics Multipath System E  
InstantLabs *Listeria* spp Food Safety Kit  
Thermo Scientific SureTect *Listeria monocytogenes* Assay  
Pall *Listeria* GeneDisc  
Roka *Listeria* spp. Detection Assay  
Roka *Salmonella* Detection Assay  
GeneDisc Plate *Listeria* spp.  
GeneDisc Plate *Listeria monocytogenes*  
GeneDisc Plate *Listeria* Duo  
GeneDisc Plate *Listeria* ID  
Profos AG *Listeria* Capture Kit  
iQ-Check *Listeria* spp.  
Real-Time PCR Test Kit VIP<sup>®</sup>  
*Listeria* Assurance<sup>™</sup> EIA  
GeneQuence *Listeria* Test  
Reveal<sup>®</sup> One-Step *Listeria*  
Reveal<sup>®</sup> 2.0 *Listeria* Test System  
BAX<sup>®</sup> System PCR Assay for Screening *Listeria* genus  
BAX<sup>®</sup> System Reverse- Transcriptase PCR Assay and Collection Kit for  
*Listeria* species  
BAX<sup>®</sup> System Real-Time PCR Assay for Genus *Listeria*  
24E BAX<sup>®</sup> System PCR Assay for *Listeria monocytogenes*  
24E MicroSEQ<sup>®</sup> *Listeria monocytogenes* Detection Kit  
MicroSEQ<sup>®</sup> *Listeria* spp. Detection Kit

Book Proposals: various books related to food safety

Letters of Recommendation: tenure, promotion and permanent residency/green card status for various individuals

Ad Hoc Committees

Food Factory 2010 Scientific Organizing Committee – 5<sup>th</sup> International Conference on the Food Factory for the Future June 30 – July 2, 2010.

Expert Witness: Various court cases involving foodborne outbreaks. United States and Israel: 1999 – present

Consulting: assess and advise various food companies regarding the control and/or elimination of *Listeria* and other microbial contaminants: 1999 - present

Certificates of Completion:

JIFSAN-FSPCA Preventive Controls for Human Food Training, College Park, MD, April 24 – 26, 2018

Food Processors Institute: Train-the-trainer HACCP course, Alexandria, VA, July 14 - 16, 1999

Food Processors Institute: HACCP verification and validation: An advanced workshop, East Lansing, MI, October 8 - 9, 2000.

Council of Science Editors: Short course for journal editors, San Antonio, TX, May 5 – 6, 2000.

**EXTERNAL FUNDING: ~ \$22.6. million over 20 years**

**PI: Bold Underlined**

**Co-PI: Co-PI Bold**

**Collaborator: Underlined**

1. **Ryser, E.T.** 2018. ProduceShield Plus<sup>®</sup> lab pilot plant validation study. CMS Technology. \$45,360.
2. **Ryser, E.T.**, S. Kathariou, and R. Beaudry. 2018. Fate of different *Listeria monocytogenes* strains on different whole apple varieties during long-term simulated commercial storage. Center for Produce Safety. \$346,054.
3. Zhang, W., S.-H. He, H. Li, and **E.T. Ryser**. 2016. Contamination mechanisms of engineered nanoparticles in fresh produce and control strategies during processing. USDA-NIFA-AFRI \$499,118
4. Jeong, S., B.P. Marks, K. Dolan, and **E.T. Ryser**. 2016. Developing *Salmonella* control strategies for spray-dried powders. USDA-NIFA-AFRI. \$498,599.
5. **Ryser, E.T.** 2015. Cross contamination studies to quantify pathogen transfer and redistribution on produce during processing. FDA. \$185,000.

6. Marks, B.P., S. Jeong, **E.T. Ryser**, and others. 2015. Enhancing low-moisture food safety by improving development and implementation of pasteurization technologies. USDA - \$4,700,000.
7. Marks, B.P. **E.T. Ryser**, and L. Harris. 2015. Improving validation methods for pistachio pasteurization processes. UC-Davis Foundation. \$279,859.
8. Lim, D., and **E.T. Ryser**. 2015. Rapid concentration/detection of foodborne pathogens from wash water for enhanced safety of fresh fruits and vegetables. USDA-AFRI. \$499,996.
9. Jeong, S., B.P. Marks, and **E.T. Ryser**. 2013. Understanding the bacterial dry transfer mechanism during nut processing. USDA-NIFA. \$380,121.
10. Zhang, W., H. Li, S.-H. He, and **E.T. Ryser**. 2013. Contamination and removal of engineered nanoparticles on fresh produce surfaces. MSU-GREEN. \$39,000.
11. Jeong, S, B.P. Marks, and E.T. Ryser. 2012. Using high-frequency nano-amplitude mechanical vibration for preventing and reducing *Salmonella* attachment on dry surfaces. ILSI North American technical Committee on Food Microbiology. \$84,617
12. Siddiq, M, K. Dolan and **E.T. Ryser**. 2012. Testing of Juice or Sample Solutions for Microfiltration Efficacy. Chic Group. \$15,118
13. Marks, B.P., **E.T. Ryser**, and S. Jeong. 2011. Factors affecting pasteurization efficacy for *Salmonella* in low-moisture foods. USDA-NIFA - \$496,514
14. Beaudry, R.M., E. Almenar, E.M. Rubino, and **E.T. Ryser**. 2011. Proof-of-concept research program to determine the potential for ClO<sub>2</sub> to extend the shelf-life of packaged fresh produce. Dow Chemical Co. - \$69,393
15. **Ryser, E.T (Lead PI)**, B.P. Marks, E. Almenar, K. Dolan, R. Beaudry, M. Rubino, S. Jeong, M. Siddiq and J. Harte. 2011. An integrated approach to enhance the microbial safety of fresh-cut fruit and vegetable products during processing, packaging, and retail display. USDA-NIFSI: \$1,809,934.
16. Marks, B.P., E.T. Ryser, and S. Jeong. 2011. Improving process validation methods for multiple pasteurization technologies applied to low-moisture foods. USDA-NIFSI - \$599,805.
17. Marks, B.P., and **E.T. Ryser**. 2011. A generalized phenomenological model for bacterial transfer to/from fresh produce. USDA-NIFSI - \$360,634.

18. **Ryser, E.T.** 2011. Performance testing of the DeltaTRAK FlashCheck Tests for total organisms and Gram-negative bacteria. DeltaTRAK, Inc. - \$10,240.
19. **Ryser, E.T.** 2011. Microbiological testing of maraschino cherries. Gray and Company - \$4,000
20. Beaudry, R.M., E. Almenar, E.M. Rubino, and **E.T. Ryser**. 2011. Proof-of-concept research program to determine the potential for ClO<sub>2</sub> to extend the shelf-life of packaged fresh produce. Dow Chemical Co. - \$69,393.
21. **Ryser, E.T.** 2010. Rapid testing of flume water organic load to better assess the efficacy of free chlorine against *Escherichia coli* O157:H7 during commercial lettuce processing. USDA: Center for Produce Safety, University of California-Davis. \$66,131.
22. **Ryser, E.T.** 2010. Impact of organic load on sanitizer efficacy and recovery of *Escherichia coli* O157:H7 during commercial lettuce processing. Center for Produce Safety: University of California – Davis, \$83,000.
23. Marks, B.P., Jeong S., Ryser, E.T. 2010. Improved process validation strategies for *Salmonella* inactivation on low-moisture food products subjected to thermal pasteurization processes. International Life Sciences Institute (ILSI) – North America. \$118,754.
24. Kang, I., **E.T. Ryser**, J. Harte, and A.M. Booren. 2010. Inhibitory effects of Proviaan (sodium lactate and sodium acetate mixtures) on the growth of *Listeria monocytogenes* in frankfurters stored at 4, 7 or 10°C. Kemira ChemSolutions, B.V., The Netherlands, \$117,040.
25. Marks, B.P., and **E.T. Ryser**. 2010. Minimizing the risk of *Listeria monocytogenes* cross-contamination of deli RTE foods by applying cost effective learning strategies for minority employees. CSREES-NIFSI, \$106,240.
26. Kang, I., **E.T. Ryser**, and A.M. Booren. 2010. Decontamination of microorganisms on broiler carcasses by hot water Immersion prior to air or water chilling. Midwest Poultry Research Program, \$37,190.
27. Goodridge, L, **E.T. Ryser**, M. Danyluk, D. Schaffner, and T. Suslow et al. 2009. Quantifying microbial risks during growth of produce. CSREES-NIFSI, \$1,000,000.
28. Vorst, K.L., **E.T. Ryser**, B.P. Marks, et al. 2009. Predictive growth models for *Escherichia coli* O157:H7 on fresh-cut produce during transport and cold chain distribution. CSREES-NIFSI \$600,000.
29. **Ryser, E.T.** 2009. Microbiological testing of maraschino cherries. Gray and Company - \$15,000

30. Marks, B.P., A.M. Booren, and **E.T. Ryser**. 2009. Quantifying the effect of slow-cooking operations on the thermal resistance of *Salmonella* in whole-muscle pork products. National Pork Board - \$50,000
31. **Ryser, E.T.** 2009. Inactivation of *Escherichia coli* O157:H7 during pilot plant-scale production of fresh-cut leafy greens. Michigan Vegetable Council \$3,500.
32. **Ryser, E.T.** 2008. Testing of various sanitizers against bacterial pathogens on conveyor belts. Ecolab, Inc. - \$4,500.
33. Marks, B.P., J. Sanghyup, and **E.T. Ryser**. 2008. Inactivation of *Salmonella* on nuts using low-energy x-ray. International Life Sciences Institute - \$84,000.
34. Marks, B.P., J. Sanghyup, **E.T. Ryser**, and A.M. Booren. 2007. Modeling the microbiological effect of low x-ray irradiation on ground beef patties. Private Industry- \$25,000
35. **Ryser, E.T.**, E.C.D. Todd, and B.P. Marks. 2007. Quantifying the risk of transfer and internalization of *Escherichia coli* O157:H7 during processing of leafy greens. Fresh Express - \$228,349
36. Marks, B.P., J. Sanghyup, **E.T. Ryser**, and K.D. Dolan. 2007. Quantifying the performance of *Pediococcus* spp. (NRRL B-2354) as a non-pathogenic surrogate for *Salmonella enteritidis*. Almond Board of California - \$36,769
37. Marks, B.P., **E.T. Ryser**, A.M. Booren, and K.S. Maier. 2007. Improving the use of predictive microbial models for thermal process validations in the meat and poultry industry. CSREES-NIFSI - \$578,671
38. **Ryser, E.T.**, E.C.D. Todd, B.P. Marks, T.A. Ten Eyck. 2007. A systems approach to minimize microbial food safety hazards associated with fresh- and fresh-cut leafy greens. CSREES-NIFSI - \$600,000 subcontract (Total award - \$2,500,000)
39. **Ryser, E.T.**, E. Hansen, and A. Schilder. 2007. Synergistic impact of chlorine dioxide gas and various freezing rates on the microbiological quality of frozen blueberries. Frozen Food Foundation - \$25,000
40. **Ryser, E.T.**, E. Hansen, and A. Schilder. 2007. Impact of freezing rates on the microbiological and enzymatic quality of frozen blueberries. MSU - GREEN- \$34,925.
41. **Ryser, E.T.**, and B.P. Marks. 2006. Efficacy of two commercial sanitizers against *L. monocytogenes*, *E. coli* O157:H7, and *Salmonella* on conveyor belts during normal operation. Midwest Advanced Food Manufacturing Alliance - \$50,000

42. **Ryser, E.T.**, and B.P. Marks. 2006. Efficacy of two commercial sanitizers against *L. monocytogenes*, *E. coli* O157:H7, and *Salmonella* on conveyor belts during normal operation. Ecolab, Inc., St. Paul, MN - \$34,500
43. Orta-Ramirez, A., **E.T. Ryser**, B.P. Marks, and A.M. Booren. 2006. Mechanisms of *Escherichia coli* O157:H7 attachment to and transfer between meat and equipment surfaces. National Cattleman's Beef Association - \$105,999
44. Marks, B.P., A. Orta-Ramirez, A.M. Booren, and **E.T. Ryser**. 2005. Determining the likelihood that *Salmonella* develops heat resistance during thermal processing of commercial whole muscle beef. American Meat Institute Foundation - \$105,598
45. Marks, B.P., A. Orta-Ramirez, **E.T. Ryser**, and K. Dolan. 2005. Screening for potential non-pathogenic surrogates for *Salmonella* Enteritidis PT30 during moist-air convection heating of almonds. Almond Board of California. \$32,478
46. **Ryser, E.T.** 2005. Evaluation of 1-ply composite tissues for recovery of *Listeria* using the Biosys 32 system. Centrus, Corp., Ann Arbor, MI - \$17,500
47. Todd, E.C.D., and **E.T. Ryser**. 2005. *Listeria monocytogenes* contamination of deli meat slicers - risk and communication. USDA-NAFSS - \$225,000
48. Todd, E.C.D., **E.T. Ryser**, L.-A. Jaykus. 2004. A risk-based approach to determine "best consume by" dates to control exposure to *Listeria monocytogenes* in deli meats. CSREES - NIFSI - \$599,999
49. Draughon, A., **E.T. Ryser**, D.O. Cliver, and others. 2004. Incidence and levels of *Listeria monocytogenes* in deli meats. USDA-NAFSS - \$420,000
50. Fulbright, D.W., B. Harte, and **E.T. Ryser**. 2004. Microbial populations on peeled chestnuts and their inhibition. Midwest Advanced Food Manufacturing Alliance - \$10,000.
51. Marks, B.P., **E.T. Ryser**, A.M. Booren and A. Orta-Ramirez. 2003. Modeling pathogen migration and thermal resistance in marinated whole-muscle meat and poultry products. USDA-NRI (Food Safety) - \$290,000
52. **Ryser, E.T.**, and E.C.D. Todd. 2003. Transfer coefficients for *Listeria monocytogenes* to and from food contact surfaces found in meat fabrication facilities USDA-NAFSS - \$124,000
53. Todd, E.C.D., **E.T. Ryser**, and E.J. Hanson. 2003. Microbial standards and reduction strategies for highbush blueberries Midwest Advanced Food Manufacturing Alliance - \$50,000

54. Hanson, E.J., E.C.D. Todd, **E.T. Ryser**, and A. Schilder. 2003. Addressing food safety marketing concerns through microbial reduction strategies for Michigan blueberries. Mich. Dept. Ag. \$70,000
55. Todd, E.C.D., E.J. Hanson, **E.T. Ryser**, and A.M.C. Schilder. 2003. Microbial reduction strategies for highbush blueberries. United States Highbush Blueberry Council - \$76,000.
56. Marks, B.P., **E.T. Ryser**, and A. Orta-Ramirez. 2003. Optimizing the design and operation of commercial cooking systems for ready-to-eat meat and poultry products. USDA-NRI (Food Safety) - \$196,775
57. Alocilja, E., **E.T. Ryser**, and E.C.D. Todd. 2003. Conductometric biosensor for foodborne pathogen detection in fresh produce. USDA-NRI (Food Safety) - \$100,000
58. **Ryser, E.T.** 2003. Development of an extrudable whey protein-based edible hot dog casing possessing antimicrobial properties. MSU School of Packaging - Center for Food and Pharmaceutical Packaging Research - \$5,000
59. Kathariou, S., **E.T. Ryser**, D. Cliver and L.A. Jackson. 2002. Molecular ecology of foodborne pathogens in the turkey processing industry. USDA-ARS - \$81,500.
60. Marks, B.P., **E.T. Ryser**, E.C. Todd. 2002. Robustness of predictive models for pathogen growth and inactivation in food safety risk assessments. USDA-ORACBA. \$50,000.
61. Marks, B.P., **E.T. Ryser**, E.C. Todd, T. Ross, and M. Tamplin. 2002. Robustness of predictive models for *Listeria* growth and inactivation in ready-to-eat meat and poultry products. USDA - NAFSS. \$53,000
62. Todd, E.C. and **E.T. Ryser**. 2001. Transfer coefficients for *Listeria* cross-contamination. FDA/CFSAN. \$393,302
63. Cash, J.N., and **E.T. Ryser**. 2001. Post-harvest reduction of pesticides and microorganisms in horticultural products. S.C. Johnson Professionals. \$39,000
64. **Ryser, E.T.** 2001. Reduction of *Salmonella* in broilers using sodium chlorate. EKA Chemicals, Inc. - \$6,000
65. Cash, J.N., and **E.T. Ryser**. 2001. A comparison of several EKA formulations with Fit™ for inactivating *Listeria monocytogenes* and *Escherichia coli* O157:H7 on whole apples. EKA Chemicals, Inc. - \$14,000
66. Mansfield, L.S., et al. including **E.T. Ryser**. 2001. Integrated Microbial Food Safety Graduate Training Program. USDA-CSREES - \$276,000

67. Altier, C., J. Barnes, W. Gebreyes, J. Grimes, S. Kathariou, D. Ley, A. Miles, M. Stringham, J.-P. Vaillancourt, D. Wages, W. Watson, M. Wineland, E.T. Ryser, W. Willis, and M. Worku. 2001. Biosecurity and diversity of foodborne pathogen populations on poultry farms. USDA/IREECGP - \$599,952
68. Alocilja, V., W.N. Osburn, and E.T. Ryser. 2000. Rapid detection of pathogenic contamination in pork for HACCP monitoring. National Pork Producers Council - \$24,727
69. Alocilja, V.C., P. Satoh and E.T. Ryser. 2000. Chemiluminescence detection of microbial contaminants on fresh produce. CSREES - NIFSI - \$361,426
70. Marks, B.P., D. M. Smith, and **E.T. Ryser**. 2000. Incorporating humidity into microbial inactivation models for convection cooking of meat. USDA-NRI (Food Safety) - \$138,070
71. Marks, B.P., A.M. Booren, and **E.T. Ryser**. 2000. Achieving lethality performance standards for fully-cooked meat products. USDA – NIFSI - \$347,591
72. **Ryser, E.T.** and W.N. Osburn. 1999. Strain-specific typing of bacterial pathogens in the pork industry. National Pork Producers Council - \$39,650
73. Guyer, D., B. Marks, B. von Bernuth, V. Alocilja, R. Beaudry, E.T. Ryser, and L. Bourquin. 1999. Biosystems engineering for food safety and quality in the food chain. USDA Food and Agricultural Sciences National Need Graduate Fellowship Grant - \$138,000
74. Mansfield, L.S., et al. including E.T. Ryser. 1999. Integrated microbial food safety training program to address threats to human food safety. USDA-CSREES - \$276,000
75. Smith, D.M., R.Y. Ofoli, and **E.T. Ryser**. 1999. A time-temperature integrator to validate *Salmonella* destruction in ground beef patties. USDA – NRI (Food Safety) - \$184,807
76. Alocilja, E.C., E.T. Ryser, and W.N. Osburn. 1999. Rapid detection of pathogenic contamination in pork for HACCP monitoring. National Pork Producers Council - \$24,727
77. **Ryser, E.T.** and J.N. Cash. 1998. The use of post-harvest treatments to reduce microbial pathogens in selected horticultural products; S.C. Johnson Professionals, Sturtevant, WI - \$41,500
78. Osburn, W.N., **E.T. Ryser**, and A. M. Booren. 1998. Influence of chlorine dioxide on pathogen survival and recovery of chilled pork subprimals and poultry carcasses. S.C. Johnson Professionals, Sturtevant, WI - \$32,400



79. Osburn, W.N., **E.T. Ryser**, and A. M. Booren. 1998. Influence of chlorine dioxide on pathogen survival and recovery of chilled pork subprimals and poultry carcasses. Midwest Advanced Food Manufacturing Alliance - \$32,400
80. **Ryser, E.T.**, and W.N. Osburn. 1998. Strain-specific typing of bacterial pathogens in the pork industry. National Pork Producers Council - \$47,650.

## EXTERNAL ADVISORY BOARDS

1. Luo, Y., P. Millner, A.J. Pearlstein, L. Bourouiba, J. Brecht, L. Calvin, C.J. Hapeman, F.M. Hashem, K.D. Nolte, X. Nou, P.K. Rivadeneria, K.R. Schneider, A. Shaw, D. Shelton, T.V. Suslow, G.D. Thompson, B.T. Vinyard, and K. Vorst. 2016. Food safety innovations and preventive controls during fresh and fresh-cut produce washing, packing, and retail display. USDA-NIFA - \$3.7 million.

## GRADUATE DEGREES AWARDED

### Ph.D.

1. Dr. Hamoud Al Nughaymishi. 2018. Dissertation: *Listeria monocytogenes* transfer during slicing as impacted by intrinsic characteristics of fresh produce.  
FDA, Riyadh, Saudi Arabia
2. Dr. Haiqiang Wang. 2015. Dissertation: Quantifying transfer and inactivation of *Salmonella* during post-harvest processing of tomatoes.  
Research and Development Scientist, Rembrandt Enterprises, Inc., 1521 18<sup>th</sup> Street, Spirit Lake, IA 51360; Research and Development Scientist, Jenny O Turkey, MN  
Current position: Sr. Research and Development Scientist, Pepsico, Barrington, IL  
2016 - present
3. Dr. Gordon R. Davidson. 2013. Dissertation: Impact of organic load on sanitizer efficacy against *Escherichia coli* O157:H7 during pilot-plant production of fresh-cut lettuce.  
Post-Doctoral Research Scientist for Dr. Linda Harris, University of California – Davis  
Current position: FDA Consumer Safety Officer, FDA-CIFSAN, College Park, MD  
2016 - present
4. Dr. Annemarie L. Buchholz. 2012. Dissertation: Quantitative transfer of *Escherichia coli* O157:H7 during pilot-plant production of leafy greens.  
FDA Commissioner's Fellowship Program. Food and Drug Administration, 6502 S. Archer Road, Bedford Park, IL, 2010-2012  
Microbiologist. Food and Drug Administration, 6502 S. Archer Road  
Bedford Park, IL 2012

Current position: FDA Consumer Safety Officer, FDA-CIFSAN, College Park, MD  
2012 - present

5. Dr. Lindsey A. Keskinen (Beugoms). 2006. Dissertation: Impact of biofilm formation and sublethal injury on transfer of *Listeria monocytogenes* to delicatessen meats.  
Postdoctoral Research Scientist – USDA/ERRC, Wyndmoor, PA 2008-2010  
Senior Technologist. Campbell’s Soup Co., Camden, NJ 2010 – 2015  
Current position: Senior R&D Microbiologist, Campbell’s Soup Co., Camden, NJ  
2016 – present
6. Dr. Keith L. Vorst. 2005. Dissertation: Transfer coefficients for *Listeria* cross-contamination during slicing of ready-to-eat delicatessen products.  
Assistant Professor of Industrial Technology, California Polytechnical Institute, San Luis Obispo, CA 2010 – 2014  
Associate Professor of Industrial Technology, California Polytechnical Institute, San Luis Obispo, CA 2010 - 2014  
Current position: Associate Professor of Food Science and Human Nutrition, Iowa State University, Ames, IA 2014 - present
7. Dr. Stephanie Lynn Rodgers. 2002. Dissertation: Fate of *Escherichia coli* O157:H7 and *Listeria monocytogenes* on fresh produce during sanitizer exposure.  
Senior Research and Development Scientist, Ross Pharmaceuticals, Columbus, OH  
Current position: Unknown
8. Dr. Arzu Cagri. 2002. Dissertation: Antimicrobial whey protein isolate-based edible casings.  
Associate Professor of Food Science, Sakarya University, Sakarya, Turkey 2002 - present

#### **M.S.**

1. Ryann E. Gustafson – M.S. 2017. Rapid concentration/detection of *Escherichia coli* O157:H7 and *Listeria monocytogenes* from lettuce wash water.  
Current position: Analytical Chemist, Covance Laboratories, Indianapolis, IN
2. Haley S. Smolinski – M.S. 2017. *Salmonella* Typhimurium LT2 transfer and redistribution on baby spinach and cilantro during pilot scale processing  
Current position: Food Scientist, Cargill, Minneapolis, MN
3. Rocky Patil – M.S. 2017. Transfer of *Listeria monocytogenes* during cutting, slicing, dicing and subsequent storage of cantaloupe and honeydew melons  
Current position:

4. Siyi Wang – M.S. 2016. Spread of *Escherichia coli* O157:H7 during flume washing and drying of fresh-cut Romaine lettuce.  
Current position: Research Engineer – Printpack, Inc., Williamsburg, VA
5. Victor Oladimeji – M.S. 2015. Fate of *Listeria monocytogenes* in diced onions and celery, and *Salmonella* Typhimurium in diced tomatoes packaged under modified atmosphere during simulated commercial storage.  
Current position: Ph.D. Student – North Carolina State University, Department of Food Science, under Dr. Sophia Kathariou 2015 - present.
6. Lin Ren – M.S. 2014. Impact of selected unit operations on the spread of *Escherichia coli* O157:H7 during pilot-scale production of fresh-cut lettuce.  
Research technician in my lab 2015 - 2017.  
Current position: Returned to China 2018
7. Andrew M. Scollon – M.S. 2014. Transfer and survival of *Listeria monocytogenes* during slicing, dicing and storage of onions.  
Current position: Laboratory Manager – Rtech Laboratory, Land O’Lakes, Minneapolis, MN. 2014 – present.
8. Fernanda Filizzola Cury-Mattos. 2012. Non-thesis.  
International Quality Assurance Manager – Domino’s Pizza, Ann Arbor, MI 2012 – 2016.  
Current position: Florida, unknown.
9. Wenting Zeng. 2012. Growth of *Escherichia coli* O157:H7 and *Listeria monocytogenes* in packaged fresh-cut Romaine mix at fluctuating temperatures during commercial transport, retail storage and display.  
Current position: Research Scientist, Fresh Express, San Francisco, CA 2012 – present.
10. Scott R. Moosekian. 2012. Inactivation of *Escherichia coli* O157:H7 on baby spinach using low energy x-ray irradiation.  
Current position: Microbiology Supervisor, Covance Laboratories, Battle Creek, MI 2015; Application Software Specialist, Covance Laboratories, Chico, CA 2016 - present
11. Katelin Fennel (Koerner). 2012. Non-thesis.  
Position: Technical Services Representative, Neogen Corp., Lansing, MI 2012 – 2015, Michigan Turkey Producers 2016 - present
12. Adriana Velasquez. 2006. Thermal resistance and migration of *Salmonella* spp. into marinated pork products.

- Current position: Mead Johnson Nutritionals/Bristol Myers Squibb, Latin American Division, Mexico City, Mexico 2006 - ?; Product Manager, R & D Leader, Anjinomoto, North America, Chicago, IL 2016 – present
13. Iuliano Popa. 2005. Thesis: Microbial levels and reduction strategies for Michigan highbush blueberries.  
Supervisory Public Health Veterinarian, USDA - Food Safety and Inspection Service, JBS Swift & Company - Est. 969, P.O. Box 1450, 800 N. 8th Avenue, Greeley, CO 80632 2005 - ?; Senior Public Health Veterinarian, USDA-FSIS, Denver, CO, 2007 – 2012?  
Current position: Unknown
14. Pascale Pierre. 2004. Thesis: Efficacy of chemical sanitizers to inactivate *Escherichia coli* O157:H7, *Salmonella* Typhimurium DT104 and *Listeria monocytogenes* on alfalfa seeds and sprouts.  
Current position: Bank manager, Montreal, Canada 2005 – present.
15. Alissa M. Wesche. 2003. Thesis: Thermal resistance of sublethally injured *Salmonella*  
Current position: Director of Quality Assurance, Old Orchard Brands, Sparta, MI 2005 - present
16. Geetha Kumar (Phillips). 2002. Thesis: Effects of monensin and sodium chlorate on *Salmonella infantis* colonization in broilers.  
Positions: 2002-2007. Disease Investigation Officer, Chief Disease Investigation Office, Pacha P.O.; Palode; Trivandrum; Kerala -695 562; India.  
Earned her Ph.D. in Poultry Science from the University of Arkansas in 2012.  
Current position: Postdoctoral Associate, Department of Poultry Science, University of Arkansas 2012 – present.
17. Finny P. Mathew. 2000. Thesis: Competition of thermally injured *Listeria monocytogenes* with a mesophilic lactic acid starter culture during milk fermentation. Earned his Ph.D. in Bioengineering from Michigan State University in 2005.  
Current position: Research Scientist and Founder of Rapid BioSense, East Lansing, MI 2005 – present.

### **CURRENT GRADUATE STUDENTS**

Nurual Hamad Ahmad – Ph.D.  
Gayathri Gunathilaka – Ph.D.

### **UNDERGRADUATE PROFESSORIAL ASSISTANTS**

Chelsea N. Kaminski – B.S. 2013.

M.S. in Horticulture at University of California – Davis 2015 under Dr. Trevor Suslow  
Laboratory manager for Dr. Suslow  
Current position: FDA Consumer Safety Officer, FDA-CIFSAN, College Park, MD 2016  
- present

Jacob Thorns: 2011 – 2014.

Kelly McClelland 2013 – 2015

### **GRADUATE STUDENT NATIONAL AWARDS**

Nurul Ahmad. 2018. International Association for Food Protection: Developing Scientist Award – 1<sup>st</sup> place, Poster Presentation

Harry Wang. 2014. Institute of Food Technologists. Z. John Ordal, Graduate Student Research Paper, 2<sup>nd</sup> Place, Oral Competition

Harry Wang. 2012. International Association for Food Protection: Developing Scientist Award – 3<sup>rd</sup> place, Oral Presentation

Harry Wang. 2011. International Association for Food Protection: Developing Scientist Award – 3<sup>rd</sup> place, Poster Presentation

Gordon R. Davidson. 2011. International Association for Food Protection: Developing Scientist Award – 1<sup>st</sup> place, Oral Presentation

Gordon R. Davidson. 2010. International Association for Food Protection: Developing Scientist Award – 3<sup>rd</sup> place, Oral Presentation

Annemarie L. Buchholz. 2009. International Association for Food Protection: Developing Scientist Award – 2<sup>nd</sup> place, Oral Presentation

Keith L. Vorst. 2004. International Association for Food Protection: Developing Scientist Award – 1<sup>st</sup> place, Oral Presentation

Pascale Pierre. 2003. International Association for Food Protection: Developing Scientist Award – 3<sup>rd</sup> place, Poster Presentation

Alissa Wesche. 2003. Institute of Food Technologists, John C. Ordal Food Microbiology Award, 3<sup>rd</sup> Place Poster Presentation.

### **POSTDOCTORAL SCIENTISTS**

Dr. Zhinong Yan: 2005 – 2009 (University of Georgia)

Dr. Lei Zhang: 2005 – 2008, 2011 – 2012 (University of Georgia)

Dr. Rajesh Sharma: 2000 – 2001 (Moscow University, Russia)

### **VISITING POSTDOCTORAL SCIENTISTS**

Dr. Chunyu Kang: 2018-2019 (China)  
 Dr. Chunran Han: 2014-2015 (China)  
 Dr. Yan Xu: 2010-2011 (China)  
 Dr. Yinfa Zhang: 2008 – 2009 (China)  
 Dr. Tahir Zahoor: 2004 – 2005 (Pakistan)  
 Dr. Mosen Issa: 2000 (Syria)

### **VISITING GRADUATE RESEARCHERS**

Atif Liaqat: 2016-2017 (Pakistan)

### **UNDERGRADUATE RESEARCHERS**

Natasha Sloniker; 2018 (MSU)  
 Cemre Öztapak: 2017 (Turkey)  
 Lindsey DeFrain: 2016 – 2018 (MSU)  
 Guiomar Denisse Posada Izquierdo: 2012 (Spain)  
 Kin Neoh: 2011 (MSU)  
 Chelsea Kaminski: 2009 – 2013 (MSU)  
 Brenkesa Markovic: 2008 (Serbia)  
 Crystal Rakestraw: 2008 (UW-River Falls)

### **GRADUATE ADVISOR (\*Major Advisor)**

*Siyi Wang	B. Mert
*Ryann Gustafson	J.L. Maurer
*Haley S. Smolinski	S. H. Elshowaya
S. B. Hite	*K. R. Fennell
S. L. Wengert	K. Kalapurackaljanardhanan
*V. A. Jayeola	S. Netramai
*R. D. Patil	T. J. Breslin
*F. F. Cury-Mattos	I. R. Donis-Gonzalez
F. J. Garcesvega	B. Guo
I. M. Hildebrandt	V. Tuntivanich
B. Mazon	S.-W. Kim
*H. Wang	J.- M. Shin
P. Singh	M. A. Mogollon
P. Limcharoenchat	T. M. Bergholz
T. Sansawat	K. G. Martino
N. R. Page	*A. Velasquez

*L. Ren	*L. A. Keskinen
*A. M. Scollon	*F. P. Mathew
P. Benyathiar	S. Samineni
D. F. Smith	*I. D. Popa
H. Gartner	*K. L. Vorst
M. I. Tenorio-Bernal	M. A. Moorman
A. N. Benoit	A. E. Watkins
*G. R. Davidson	*P. M. Pierre
*W. Zeng	R. F. McKinley
*A. L. Buchholz	I. O. Okpala
*S. R. Moosekian	C. R. Warsow
*A. M. Wesche	A. S. Kirk
P. Limjaroen	*G. S. Kumar
K. L. Harris	T. R. Carlson
C. Wong	*A. Cagri
*S. L. Rodgers	S. Wengert
S. Kajiwara	C.T. Wilson
M. Ghasemlou	Y. Shen
J. He	A. Molengraft

## PUBLICATIONS

### Scopus/Mendeley Analysis 1/17

#### Scopus

Publications: 138

Citations: 2,620

average citations/paper: 19.0

*h* index = 29

#### Journal Impact Factors

From a total of 127 journals with impact factors ranging from 1.72 to 4.51

#### Key

\* denotes peer-reviewed or referred items

***Ryser*** - Principal Author, Corresponding Author

**Ryser** - Corresponding author

***Ryser*** - Ryser's work

Ryser - underlined = collaborator

Other names: bold, italicized = Ryser's students/postdocs who conducted the work

**Books**

1. **Ryser, E.T.**, and D. D'Amico (eds.). 2020. *Listeria, Listeriosis and Food Safety*, 4<sup>th</sup> ed., Taylor & Francis, Boca Raton, FL (in preparation).
2. **Ryser, E.T.**, and J.L. Kornacki. 2019 (eds.). *Standard Methods for Examination of Dairy Products*, 18<sup>th</sup> ed. American Public Health Assoc., Washington, DC (in preparation).
3. **Ryser, E.T.**, and E.H. Marth (eds.). 2007. *Listeria, Listeriosis and Food Safety*, 3<sup>rd</sup> ed., Taylor & Francis, Boca Raton, FL.
4. **Ryser, E.T.**, and E.H. Marth (eds.). 1999. *Listeria, Listeriosis and Food Safety*, 2<sup>nd</sup> ed., Marcel Dekker, Inc., New York.
5. **Ryser, E.T.**, and E.H. Marth. 1991. *Listeria, Listeriosis and Food Safety*. Marcel Dekker, Inc., New York.

**Chapters in Books**

1. **Ryser, E.T.**, and J.L. Kornacki. 2018. Standard Methods. *In Standard Methods for Examination of Dairy Products*. 18<sup>th</sup> ed. American Public Health Assoc., Washington, DC (in preparation).
2. **Smolinski, H.S.**, and **E.T. Ryser**. 2018. Microbiology of fresh and processed vegetables, pp. 159-182. *In: Handbook of Vegetables and Vegetable Processing, 2<sup>nd</sup> Edition*. Sinha, N.K., and Y.H. Yui (eds.). Wiley-Blackwell, Ames.
3. **Ryser, E.T.** 2016. Robert Hooke. *In The Oxford Companion to Cheese*, C.W. Donnelly, editor. Oxford University Press, Oxford.
4. **Ryser, E.T.** 2016. Inoculum. *In The Oxford Companion to Cheese*, C.W. Donnelly, editor. Oxford University Press, Oxford.
5. **Ryser, E.T.** 2016. Cross Contamination. *In The Oxford Companion to Cheese*, C.W. Donnelly, editor. Oxford University Press, Oxford.
6. **Ryser, E.T.** 2016. Outbreak. *In The Oxford Companion to Cheese*, C.W. Donnelly, editor. Oxford University Press, Oxford.



7. **Ryser, E.T.**, and A. Wesche. 2014. Recovery of sublethally injured bacteria. *In* Compendium of Method for the Microbiological Examination of Foods, 5th Edition. American Public Health Assoc., Washington, DC.
8. **Ryser, E.T.**, and J. Schuman. 2014. Aerobic plate count. *In* Compendium of Method for the Microbiological Examination of Foods, 5th Edition. American Public Health Assoc., Washington, DC.
9. **Ryser, E.T.**, and C.W. Donnelly. 2014. *Listeria*. *In* Compendium of Method for the Microbiological Examination of Foods, 5th Edition. American Public Health Assoc., Washington, DC.
10. Wesche, A., Gurtler, J.B. and **E.T. Ryser**. 2013. Stress adaptation and survival of foodborne pathogens, p. 422-437. *In* Guide to Foodborne Pathogens, 2<sup>nd</sup> edition, R.G. Labbé, S. García, eds. John Wiley & Sons .
11. **Ryser, E.T.** and R.L Buchanan. 2012. *Listeria monocytogenes*, pp. 503-545. *In* Food Microbiology – Fundamentals and Frontiers, 4<sup>th</sup> Edition. ASM Press, Washington, DC.
12. **Ryser, E.T.** 2011. Safety of dairy products. *In* Microbial Food Safety – An Introduction, pp. 127-145. O. Oyarzabal and S. Backert (eds.). Springer, New York.
13. **Ryser, E.T.** 2011. Pathogens in milk: *Listeria monocytogenes*, pp. 1650-1655. *In*: *Encyclopedia of Dairy Sciences*, 2<sup>nd</sup> Edition. Roginski, H., P.F. Fox and J.W. Fuquay (eds.). Academic Press, London.
14. **Ryser, E.T.** 2011. Pasteurisation of liquid milk products: Principles, public health aspects, pp. 2232-2237. *In*: *Encyclopedia of Dairy Sciences*, 2<sup>nd</sup> Edition. Roginski, H., P.F. Fox and J.W. Fuquay (eds.). Academic Press, London.
15. **Buchholz, A.L., G.R. Davidson, and E.T. Ryser**. 2011. Microbiology of fresh and processed vegetables, pp. 159-182. *In*: *Handbook of Vegetables and Vegetable Processing*. Sinha, N.K., and Y.H. Yui (eds.). Wiley-Blackwell, Ames, IA.
16. Behling, R.G., J. Eifert, M.C. Erickson, J.B. Gurtler, J.L. Kornacki, E. Line, R. Radcliff, **E.T. Ryser**, B. Stawick, and **Z. Yan**. 2010. Selected pathogens of concern to industrial food processors: Infections, toxigenic, toxico-infections, selected emerging pathogenic bacteria, pp. 5-61. *In* *Principles of Microbiological Troubleshooting in the Industrial Food Processing Environment*, J.L. Kornacki (ed.), Springer, New York.
17. **Ryser, E.T.** 2009. *Listeria monocytogenes*, pp. 143-144. *In* *Biosafety in Microbiological and Biochemical Laboratories*, 5<sup>th</sup> edition. U.S. Department of Health and Human Services – Public Health service, Centers for Disease Control and Prevention and the National Institutes of Health, U.S Government Printing Office, Washington, DC.

18. **Ryser, E.T., Z. Yan, and J. Hao.** 2009. Attachment and internalization of pathogens in produce, 55-80. In: *Microbial Safety of Fresh Produce*, Fan, X., B.A. Niemira, C.J. Doona, F.E. Feeherry, and R.B. Gravani (eds.). Wiley-Blackwell, Ames, IA.
19. **Ryser, E.T.** 2007. Incidence and behavior of *Listeria monocytogenes* in cheese and other fermented dairy products, pp. 405-501. In: Ryser, E. T., and E. H. Marth (eds.). *Listeria, Listeriosis and Food Safety, 3<sup>rd</sup> edition*. Taylor & Francis, Boca Raton, FL.
20. **Ryser, E.T.** 2007. Incidence and behavior of *Listeria monocytogenes* in unfermented dairy products, pp. 357-403. In: Ryser, E. T., and E. H. Marth (eds.). *Listeria, Listeriosis and Food Safety, 3<sup>rd</sup> edition*. Taylor & Francis, Boca Raton, FL.
21. **Ryser, E.T.** 2007. Incidence and behavior of *Listeria monocytogenes* in poultry and egg products, pp. 571-615. In: Ryser, E. T., and E. H. Marth (eds.). *Listeria, Listeriosis and Food Safety, 3<sup>rd</sup> edition*. Taylor & Francis, Boca Raton, FL.
22. Henning, D., R.S. Flowers, R. Reiser and **E.T. Ryser.** 2004. Pathogens in milk and milk products, pp. 103-151. In: *Standard Methods for the Examination of Dairy Products, 17<sup>th</sup> edition*, American Public Health Assoc., Washington, DC.
23. **Ryser, E.T.** 2003. Pathogens in milk: *Listeria monocytogenes*, pp. 1650-1655. In: *Encyclopedia of Dairy Sciences*. Roginski, H., P.F. Fox and J.W. Fuqyay (eds.). Academic Press, London.
24. **Ryser, E.T.** 2003. Pasteurisation of liquid milk products: Principles, public health aspects, pp. 2232-2237. In: *Encyclopedia of Dairy Sciences*. Roginski, H., P.F. Fox and J.W. Fuqyay (eds.). Academic Press, London.
25. **Ryser, E.T.** 2001. Public health concerns, pp.397-545. In: *Applied Dairy Microbiology, 2<sup>nd</sup> edition*, Marth, E.H., and J.L. Steele (eds.). Marcel Dekker, Inc., New York.
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3. **Yan, Z.**, **L. Zhang**, and **E.T. Ryser**. 2019. Impact of blade composition and surface roughness on quantitative transfer of *Listeria monocytogenes* during mechanical slicing of ham. *Intern. J. Food Microbiol.* (in preparation).
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2. **Ahmad, N.H.**, **C Oztabak**, B.P. Marks, and **E.T. Ryser**. 2018. Effect of talc on thermal resistance of *Enterococcus faecium* NRRL B-2354 in almond meal at 0.45 a<sub>w</sub>. USDA NIFA Food Processing and Manufacturing Technology Project Director's Meeting, Natick, MA August 14-15.
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#### Non-Peer Reviewed Abstracts

1. Ryser, E.T. 2015. Pathogen transfer in fresh-cut operations. Abst 3<sup>rd</sup> International Conference on Fresh-cut Produce. University of California – Davis, Davis, CA Sept. 23 – 18.
2. **Ryser, E.T.** 2009. Novel X-ray irradiation technology for the food industry. Abst. Korean Society of Radiation Industry Research Conference. Jeju, Korea, Nov. 6.
3. **Ryser, E.T.** 2009. Novel X-ray irradiation technology for the food industry. Abst. Food for Health and Longevity – 2009 International Symposium and Annual Meeting of the Korean Society of Food Science and Nutrition. Changwon, Korea, Nov. 5.
4. Marks, B.P., A. Rochowiak, V. Tuntivanich, **E.T. Ryser**, and A.M. Booren. 2009. Modeling the transport of *Salmonella* into whole-muscle meat products during marination and the subsequent lethality during thermal processing. Abst. 6<sup>th</sup> International Conference on Predictive Modeling in Foods, Washington, D.C., Sept 8-12.
5. **Rakestraw, C.A., A.L. Buchholz, Z. Yan, and E.T. Ryser.** 2009. *Escherichia coli* O157:H7 transfer to a centrifugal dryer during dewatering of lettuce. Abst. 23<sup>rd</sup> National Conference on Undergraduate Research, La Crosse, WI, April 16-19.
6. **Rakestraw, C. A., A.L. Buchholz, Z. Yan, and E.T. Ryser.** 2008. *Escherichia coli* O157:H7 transfer to a centrifugal dryer during dewatering of lettuce. Abst. 16<sup>th</sup> Annual McNair Scholars Symposium, Berkley, CA, August 6-11.
7. **Ryser, E.T., Z. Yan, K.L. Vorst, L.A. Keskinen,** E.C.D. Todd, and L.-A. Jaykus 2007. The quantitative transfer of *Listeria monocytogenes* during slicing of ready-to-eat meats: A risk

assessment. Second International Symposium on Agricultural Food Safety, Nanjing, China, November 30.

8. **Ryser, E.T., Z. Yan, K.L. Vorst, L.A. Keskinen**, E.C.D. Todd, and L.-A. Jaykus 2007. The quantitative transfer of *Listeria monocytogenes* during slicing of ready-to-eat meats: A risk assessment. Second International Symposium on Testing Techniques and Process Control for Agricultural Food Safety, Hangzhou, China, November 28.
9. **Yan, Z., L. Zhang, E.T. Ryser** and E.C.D. Todd. 2007. Implementation, validation, and development of novel food microbial testing technologies for enhancing food safety. Second International Symposium on Testing Techniques and Process Control for Agricultural Food Safety, Hangzhou, China, November 28.
10. Roman-Rosario, H., S.R. Rust, **E.T. Ryser**, and M.T. Yokoyama. 2002. Pre-harvest biocontrol of *Listeria monocytogenes* in feeds using strains of *Bacillus subtilis*. Beef Cattle, Sheep and Forage Systems Research and Demonstration Report, Michigan State University, East Lansing, MI.
11. **Himes, P.R., E.T. Ryser**, and M. Yokoyama. 2000. Inhibition of *Listeria monocytogenes*, methicillin resistant *Staphylococcus aureus* and vancomycin resistant *Enterococcus* spp. using hexadecadienoic acid from the marine alga *Chaetoceros* spp. University Undergraduate Research and Creative Activity Forum. Michigan State University, East Lansing, MI, March 31.

## PRESENTATIONS

### Invited (\*)

Presenter's name first

1. **Ryser, E.T.** 2018. *Listeria* and Apples – ‘The Core’ Concerns. Great Lakes Fruit, Vegetable and Farm Market Expo. Grand Rapids, MI, Dec. 6.
2. **Ahmad, N.H.**, A. Singh, I.M. Hildebrandt, H. Thippareddi, B.P. Marks, and **E.T. Ryser**. 2018. Validation of *Enterococcus faecium* as a surrogate for thermal inactivation of *Salmonella* on date paste. USDA NIFA Food Processing and Manufacturing Technology Project Director's Meeting, Natick, MA August 14-15.
3. **Ahmad, N.H.**, **C Oztabak**, B.P. Marks, and **E.T. Ryser**. 2018. Effect of talc on thermal resistance of *Enterococcus faecium* NRRL B-2354 in almond meal at 0.45 a<sub>w</sub>. USDA NIFA

Food Processing and Manufacturing Technology Project Director's Meeting, Natick, MA August 14-15.

4. Steinbrunner, P., E.T Ryser, K. Dolan, B.P. Marks, and S. Jeong. Modeling inactivation of *Salmonella* during spray drying. USDA NIFA Food Processing and Manufacturing Technology Project Director's Meeting, Natick, MA August 14-15.
5. Mower, A., M. Parish, E.T. Ryser, and M. Zweitering. 2018. The grey area of science: 'Predatory' publishers and questionable conferences. Ann. Mtg. Int. Assoc. Food Prot., Salt Lake City, UT, July 8 – 11.
6. ***Alnughaymishi, H., and E.T. Ryser.*** 2018. Quantification of *Listeria monocytogenes* transfer during slicing of fresh produce based on inherent product characteristics. Ann. Mtg. Int. Assoc. Food Prot., Salt Lake City, UT, July 8 – 11.
7. ***Ahmad, N.H.,*** A. Singh, I.M. Hildebrandt, H. Thippareddi, B.P. Marks, and **E.T. Ryser.** 2018. Validation of *Enterococcus faecium* as a surrogate for thermal inactivation of *Salmonella* on date paste. Ann. Mtg. Int. Assoc. Food Prot., Salt Lake City, UT, July 8 – 11.
8. ***Ahmad, N.H.,*** C Oztabak, B.P. Marks, and **E.T. Ryser.** 2018. Effect of talc on thermal resistance of *Enterococcus faecium* NRRL B-2354 in almond meal at 0.45 a<sub>w</sub>. Ann. Mtg. Int. Assoc. Food Prot., Salt Lake City, UT, July 8 – 11.
9. Steinbrunner, P., E.T Ryser, K. Dolan, B.P. Marks, and S. Jeong. Modeling inactivation of *Salmonella* during spray drying. Abst. Ann. Mtg. Int. Assoc. Food Prot., Salt Lake City, UT, July 8 – 11.
10. **Ryser, E.T.** 2017. Assessing the risk of pathogen cross-contamination during postharvest washing of fresh-cut produce. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 – 12.
11. ***Defrain, L., H. Alnughaymishi,*** and **E.T. Ryser.** 2017. Survival and growth of foodborne pathogens in fruit juice. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.
12. ***Ahmad, N.H.,*** H.-C. Tsai, I.M. Hildebrandt, M.-J. Zhu, J. Tang, **E.T. Ryser,** and B.P. Marks. 2017. Validation of *Enterococcus faecium* as a *Salmonella* surrogate for isothermal treatment of almond meal. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.
13. ***Ahmad, N.H.,*** I.M. Hildebrandt, S. Pickens, S. K. Lau, X. Xu, S. Liu, H.-C. Tsai, A.M. Rincon, J. Subbiah, H. Thippareddi, M.-J. Zhu, J. Tang, N.M. Anderson, E.M. Grasso-Kelley, **E.T. Ryser,** and B.P. Marks. 2017. Multi-laboratory comparison of *E. faecium* and *Salmonella* thermal resistance in selected low-moisture food products. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.

14. **Alnughaymishi, H.**, and **E.T. Ryser**. 2017. The effect of pear firmness on transfer of *Salmonella* during mechanical slicing. Abst. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 – 12.
15. **Gustafson, R.**, S. Magana, E. Kearns, D. Lim, and **E.T. Ryser**. 2017. Rapid concentration/detection of *Escherichia coli* O157:H7 and *Listeria monocytogenes* from lettuce wash waters generated in commercial scale facilities. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 – 12.
16. **Gustafson, R.**, S. Magana, E. Kearns, D. Lim, and **E.T. Ryser**. 2017. Rapid concentration/detection of *Escherichia coli* O157:H7 and *Listeria monocytogenes* from lettuce wash waters generated in commercial scale facilities. USDA-NIFA Project Director's Meeting, Tampa, FL July 8.
17. Suehr, Q.J., B.P. Marks, **E.T. Ryser** and S. Jeong. 2017. Quantification of adhesion force of *Salmonella* attached to food grade surfaces in low moisture environments. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.
18. Liu, S., **N.H. Ahmad**, J. Xu, **E.T. Ryser**, M.-J. Zhu, B.P. Marks and J. Tang. 2017. *Enterococcus faecium* as a surrogate for *Salmonella* in thermal treatment of non-fat milk powder. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.
19. Carroll, J.M., Q.J. Suehr, P. Steinbrenner, B.P. Marks, **E.T. Ryser** and S. Jeong. 2017. Direct comparison of the modes of cross-contamination associated with *Salmonella* during almond processing. Ann. Mtg. Int. Assoc. Food Prot., Tampa, FL July 9 - 12.
20. Lopez, K., J.A. Fehlberg, M. Ghasemlou, M.B. Oglesby, **E.T. Ryser**, J. Harte, S. Cho, M. Rubino, and E. Almenar 2017. Development of a novel antimicrobial pouch made of polyethylene terephthalate coated with a UV-curable formulation containing 2-(E)-hexanol and its effects on blueberry shelf life. Ann. Meeting Inst. Food Technol. Las Vegas, NV, June 25 – 28.
21. **Ryser, E.T.** 2017. Impact of commercial processing on the microbiological safety of fresh produce. Ann. Edu. Conf. Upper Peninsula Environ Health Assoc., Escanaba, MI Feb 22.
22. **Ryser, E.T.** 2017. Quantification of *Salmonella* and *E. coli* O157:H7 transfer and redistribution on leafy greens during pilot-scale processing. Tech. Forum on Produce Safety for FDA Funded Research, Greenbelt, MD, Feb. 9.
23. **Charles, A.L. H. Wang**, **E.T. Ryser** and D.W. Schaffner. 2016. Quantitative risk assessment for *Salmonella* on tomatoes. Ann. Mtg. Soc. Risk Anal., San Diego, CA, Dec 11-15.



24. **Ryser, E.T.** 2016. MSU food safety update – USDA multistate food safety project. Las Cruces, NM, Oct. 4 - 6.
25. **Alnughaymishi H.**, and **E.T. Ryser**. 2016. Impact of cutting speed on *Listeria monocytogenes* transfer during slicing of zucchini squash and cucumbers. Abst. Ann. Mtg. Int. Assoc. Food Prot., St. Louis, MO, July 31 – August 3.
26. Buchholz, S., P. Limcharoenchat, N. O. Hall, S. Jeong, **E. T. Ryser**, and B P. Marks. 2016. Effects of temperature, water activity, and structure on thermal resistance of *Salmonella* in dates and date paste. Abst. Ann. Mtg. Int. Assoc. Food Prot., St. Louis, MO, July 31 – August 3.
27. **Smolinski, H. S., S. Wang, L. Ren**, Y. Chen, B. Kowalcyk, E. Thomas and **E.T. Ryser**. 2016. Quantifying redistribution of *Salmonella* Typhimurium LT2 during simulated commercial production of fresh-cut baby spinach and cilantro. Abst. Ann. Mtg. Int. Assoc. Food Prot., St. Louis, MO, July 31 – August 3.
28. **Wang, S., H. S. Smolinski, L. Ren**, Y. Chen, B. Kowalcyk, E. Thomas, and **E. T. Ryser**. 2016. Spread of *Escherichia coli* O157:H7 during flume washing and drying of fresh-cut Romaine lettuce. Abst. Ann. Mtg. Int. Assoc. Food Prot., St. Louis, MO, July 31 – August 3.
29. **Gustafson, R.**, and **E.T. Ryser**. 2015. Survival and growth of *Listeria monocytogenes* during production and storage of caramel apples. Abst. Ann. Mtg. Int. Assoc. Food Prot., St. Louis, MO, July 31 – August 3.
30. Lim, D.M., E.T. Ryser, S.M. Castillo, E.A. Kearns, and R. Gustafson. 2016. Rapid concentration/detection of *E. coli* O157:H7 and *Listeria monocytogenes* from produce wash water. USDA NIFA Project Director’s Meeting, St. Louis, MO July 30.
31. Marks, B.P., J. Tang, E.T. Ryser, S. Wang, and S. Jeong. 2016. Factors affecting pasteurization efficacy for *Salmonella* in low moisture foods. USDA NIFA Project Director’s Meeting, St. Louis, MO July 30.
32. Chopra, S., S. Dhumal, P. Abeli, **E.T. Ryser**, R Beaudry and E. Almenar. 2016. Moisture regulation to control microbial growth on packaged produce. United Fresh, Chicago, IL, June 20-22.
33. **Gustafson, R.**, and **E.T. Ryser**. 2015. Survival and growth of *Listeria monocytogenes* during production and storage of caramel apples. Great Lakes Fruit, Vegetable and Farm Market Expo. Grand Rapids, MI, Dec. 8.
34. **Ryser, E.T.** 2015. MSU food safety update – USDA multistate food safety project. Narragansett, RI, Oct. 5-7.

35. **Ryser, E.T.\***. 2015. Microbial safety of fresh-cut produce – Current challenges from the processor to your plate. Iowa State University Department of Food Science and Technology Seminar Series. Ames, IA, September 30.
36. **Ryser, E.T.\*** 2015. Pathogen transfer in fresh-cut operations. 3<sup>rd</sup> International Conference on Fresh-cut Produce. University of California – Davis, Davis, CA Sept. 18-21.
37. Ryser, E.T., Marks, B.P., J. Tang, H. Thippareddi, E. Grasso, D. Gray, M. Zhu, J. Subbiah, S. Jeong, and N. Anderson. 2015. Enhancing low-moisture food safety by improving development and implementation of pasteurization technologies. USDA Project Director's Mtg., Portland, OR, July 25-28.
38. Marks, B.P., J. Tang, E.T. Ryser, S. Wang, and S. Jeong. 2015. Factors affecting pasteurization efficacy in low-moisture foods. USDA Project Director's Mtg., Portland, OR, July 25-28.
39. Marks, B.P., and E.T. Ryser. 2015. A generalized phenomenological model for bacterial transfer to/from fresh produce. USDA Project Director's Mtg., Portland, OR, July 25-28.
40. **Ryser, E.T.\***, B.P. Marks, E.R. Almenar, K.D. Dolan, K.L. Vorst, G. Wojtala, D.W. Schaffner, R.L. Scharff, R.L. Beaudry, M. Rubino, S. Jeong, and J. Harte. 2015. An integrated approach to enhance the microbial safety of fresh-cut fruits and vegetables during processing, packaging and distribution. USDA Project Director's Mtg., Portland, OR, July 25-28.
41. Castillo, S., E.A. Kearns, E.T. Ryser and D.V. Lim. 2015. Rapid concentration/detection of foodborne pathogens from wash water for enhanced safety of fresh fruits and vegetables. USDA Project Director's Mtg., Portland, OR, July 25-28.
42. Wengert, S., T.G. Aw, E.T. Ryser, and J.B. Rose. 2015. Post-harvest reduction of coliphage MS2 from Romaine lettuce during simulated commercial processing with and without a chlorine-based sanitizer. Ann. Mtg. Int. Assoc. Food Prot., Portland, OR, July 25-28.
43. ***Alnughaymishi H.***, and **E.T. Ryser**. 2015. *Listeria monocytogenes* transfer during slicing of cucumbers, zucchini squash and onions as impacted by product density. Ann. Mtg. Int. Assoc. Food Prot., Portland, OR, July 25-28.
44. Dhinga, D., S. Chopra, E.T. Ryser and E. Almenar. 2015. Microbial quality and safety of tomatoes (*Solanum lycopersicum* L.) as affected by sanitization, packaging atmosphere and their interactions during storage at 7°C. Ann. Mtg. Inst. Food Technol., Chicago, IL, July 11-14.

45. Ryser, E.T. 2015. Research update on *Listeria* in fresh produce – postharvest processing, packaging and distribution. USDA/GMA Workshop: Evaluation of risk factors for foodborne listeriosis. College Park, MD, June 16-18.
46. Ryser, E.T. 2015. *Listeria*: Characteristics and control in food facilities. Food Safety Workshop for Apple Packing Facilities, Grand Valley State University, Grand Rapids, MI, April 22.
47. **Ryser, E.T.** 2014. Food safety on celery packing and processing lines. Great Lakes Fruit, Vegetable and Farm Market Expo. Grand Rapids, MI, Dec. 10.
48. **Ryser, E.T.** 2014. MSU food safety update – USDA multistate food safety project. San Juan, Puerto Rico, Oct. 6-8.
49. **Ryser, E.T.** 2014. Peer-reviewed publishing in food safety: It doesn't need to be *that* painful. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
50. **Wang, H., and E.T. Ryser.** 2014. Effect of four commercial sanitizers against *Salmonella* on two conveyor belt systems during conveyance of diced tomatoes. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
51. **Wang, H., and E.T. Ryser.** 2014. *Salmonella* attachment and biofilm formation on tomatoes and equipment surfaces as impacted by organic load, pH and temperature. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
52. **Scollon, A.M., N. Page, E. Almenar and E.T. Ryser.** 2014. Effect of sanitizers and in-package atmosphere on *Listeria monocytogenes* growth in diced yellow onions. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
53. **Scollon, A.M., and E.T. Ryser.** 2014. Transfer of *Listeria monocytogenes* during pilot-scale dicing of onions. Ann. Mtg., Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
54. **Patil, R.D., J.C. Thorns and E.T. Ryser.** 2014. Quantitative transfer of *Listeria monocytogenes* during mechanical slicing of cantaloupe and honeydew melon. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
55. **Ren, L., B. Mazón, B.P. Marks, and E.T. Ryser.** 2014. The effect of water flow rate on *Escherichia coli* O157:H7 transfer from inoculated lettuce to wash water in closed pipe system. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.
56. **Jayeola, V.O., and E.T. Ryser.** 2014. Modeling growth of *Listeria monocytogenes* in sanitizer-treated diced onions, tomatoes and celery. Ann. Mtg. Int. Assoc. Food Prot., Indianapolis, IN, August 3 – 6.

57. Jeong, S., B.P. Marks and E.T. Ryser. 2014. Effect of almond product structure on x-ray inactivation kinetics of *Salmonella*. Ann. Mtg. Int. Assoc. Food Prot. Indianapolis, IN, August 3 – 6.
58. Jeong, S., B.P. marks, and E.T. Ryser. 2014. Minimizing *Salmonella* attachment to dry surfaces through use of high-frequency nano-amplitude mechanical vibration. Ann. Mtg. Int. Assoc. Food Prot. Indianapolis, IN, August 3 – 6.
59. Hildebrandt, I.M., B.P. Marks, E.T. Ryser, R. Villa-Rojas, J. Tang, and S. Bucholz. 2014. Impact of inoculation procedures on thermal resistance of *Salmonella* in wheat flour and associated repeatability of results. Ann. Mtg. Int. Assoc. Food Prot. Indianapolis, IN, August 3 – 6.
60. Mazón, B., B.P. Marks, L Ren, and E.T. Ryser. 2014. Effects of physical variables on *Salmonella* transfer from produce to stainless steel. Ann. Mtg. Int. Assoc. Food Prot. Indianapolis, IN, August 3 – 6.
61. Wang, H., and E.T. Ryser. 2014. Transfer and sanitizer inactivation of *Salmonella* during simulated commercial dicing of tomatoes. Ann. Mtg. Inst. Food Technol., Now Orleans, LA, June 21-24. [2<sup>nd</sup> Place, John Ordal, Graduate Student Research Paper Oral Competition]
62. González-Buesa, J., N. Page, **C. Kaminski**, E.T. Ryser, R. Beaudry and E. Almenar. 2014. Interactions between atmospheres and sanitizers and their effect on the quality and safety of packaged fresh-cut celery (*Apium graveolens* L.) Ann. Mtg. Amer. Soc. Hort. Sci. Orlando, FL, July 28 – 31.
63. Suehr, Q., S. Jeong, B.P. Marks, and E.T. Ryser. 2014. Discrete element modeling of bacterial cross-contamination during almond processing. Ann Mtg. Canadian Society for Bioengineers/American Society of Agricultural and Biological Engineers, Montreal, Quebec, Canada, July 13-16.
64. Page, N., E. Huston, S. Curlew, E.T. Ryser and E. Almenar. 2014. Interactions between sanitizing treatments and packaging gas compositions and their effects on the growth of spoilage microorganisms and *Salmonella* on fresh-cut onions. Ann. Mtg. United Fresh, Chicago, IL, June 10-13
65. **\*Ryser, E.T. 2014**. An integrated approach to enhance the microbial safety of fresh-cut fruit and vegetable products during processing, packaging, and retail display. Ann. Mtg. Inst. Food Technol., New Orleans, LA, June 21-24.
66. **\*Ryser, E.T. 2014**. An integrated approach to enhance the microbial safety of fresh-cut fruit and vegetable products during processing, packaging, and retail display. Ann. Mtg. United Fresh, Chicago, IL, June 10.

67. González-Buesa, J., N. Page, C. Kaminski, E. Ryser, R. Beaudry, and E. Almenar. 2014. Safety and quality of fresh-cut celery as affected by different sanitizers and atmospheres. Abstract Ann. Mtg. United Fresh, Chicago, IL, June 10-13.
68. **Ryser, E.T.** 2013. X-ray irradiation as a microbial intervention strategy for food. Hot Topics in Food Microbiology Conference. Camden BRI, Chipping Camden, UK, November 26.
69. **Ryser, E.T.** 2013. Microbial safety of fresh-cut produce – Current challenges from the processor to your plate. Ann. Mtg. Ontario Food Prot. Assoc., Mississauga, Ontario, Canada, November 20.
70. **Ryser, E.T.** 2013. Quantitative transfer of foodborne pathogens including *Listeria* and *Salmonella* during the production of fresh-cut fruits and vegetables. North Central Assoc. Food Drug Officials, Kalamazoo, MI, October 9.
71. **Ryser, E.T.** 2013. MSU food safety update – USDA multistate food safety project. Put-in-Bay, OH, Sept. 9-10.
72. **Davidson, G.R., C.N. Kaminski, and E.T. Ryser.** 2013. Physicochemical parameters as predictors of sanitizer efficacy against *Escherichia coli* O157:H7 in leafy green wash water containing various organic loads. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
73. **Wang, H., and E.T. Ryser.** 2013. Quantitative transfer of *Salmonella* during commercial slicing of tomatoes as impacted by slicer design, temperature and post-contamination hold time. 2013. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
74. **Ren, L., G.D. Posada-Izquierdo, and E.T. Ryser.** 2013. Dissemination of *Escherichia coli* O157:H7 from a contaminated shredder or conveyor belt to fresh-cut iceberg lettuce during simulated commercial production. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
75. **Patil, R., and E.T. Ryser.** 2013. Extent of *Listeria monocytogenes* transfer during cutting of cantaloupe. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
76. **Scollon, A.M., H. Wang, and E.T. Ryser.** 2013. Transfer of *Listeria monocytogenes* during mechanical slicing of onions. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
77. **Kaminski, C.N., N. Page, E. Almenar, and E.T. Ryser.** 2013. Growth of *Listeria monocytogenes* on packaged fresh-cut celery sticks during refrigerated storage. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.

78. Benoit, A.N., B.P. Marks, E.T. Ryser and P.G. Crandall. 2013. Comparing multiple models for aggregated foodborne pathogen transfer data between meat products and contact surfaces. Ann. Mtg. Int. Assoc. Food Prot. Charlotte, NC, July 28-31.
79. Page, N., S. Curlew, K. Afrifah, E.T. Ryser, R. Beaudry and E. Almenar. 2013. The effect of different packaging technologies on *Escherichia coli* growth in baby spinach. Ann. Mtg. Inst. Food Technol., Chicago, IL, July 13-16.
80. González-Buesa, J., N. Page, **C. Kaminski**, E.T. Ryser, R. Beaudry, and E. Almenar. 2013. Comparison of initial in-package gas composition and material on the safety and quality of fresh-cut celery (*Apium graveolens* L.). Abst. International Controlled and Modified Atmosphere Research Conference. Trani, Italy, June 3-7.
81. **Ryser, E.T.**, B.P. Marks, E. Almenar, K. Dolan, K. Vorst, G. Wojtala, D. Schaffner, R. Scharff, R. Beaudry, M. Rubino, S. Jeong, M. Siddiq and J. Harte. 2012. An integrated approach to enhance the microbial safety of fresh-cut fruits and vegetables during processing, packaging and distribution. United Fresh Food Safety and Technology Meeting, Washington, DC, October 2.
82. Ryser, E.T. 2012. Bacterial cross-contamination during produce processing. 1<sup>st</sup> Annual Food Safety Midwest Workshop. Fort Wayne, IN, September 13.
83. Lee, R., E.T. Ryser, D. Fulbright, and E. Almenar. 2012. Effect of rigid containers on the shelf life of shell-on chestnuts at retail temperatures. Abst. Ann. Mtg. Amer. Soc. Hort Sci., Miami, FL, July 31-August 2.
84. **Wang, H.**, **G.R. Davidson**, and E.T. Ryser. 2012. Microbial cross-contamination of tomatoes during washing with a peroxyacetic acid-based sanitizer in a commercial packinghouse. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
85. **Wang, H.**, and E.T. Ryser. 2012. Impact of roller type on *Salmonella* transfer during simulated commercial conveyance of tomatoes. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25. (Developing Scientist Award – 3<sup>rd</sup> Place, Oral Competition).
86. **Wang, H.**, and E.T. Ryser. 2012. Sanitizer efficacy against *Salmonella* during simulated commercial packing of tomatoes. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
87. Jeong, S., B.P. Marks, E.T. Ryser, and J.B. Harte. 2012. Inactivation of *Salmonella* on nuts using low energy X-ray. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
88. Marks, B.P., S. Jeong, and E.T. Ryser. 2012. Improved process validation strategies for *Salmonella* inactivation on low-moisture food products subjected to thermal pasteurization processes. Abst. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.

89. Benoit, A.N., B.P. Marks, and E.T. Ryser. 2012. A quantitative meta-analysis of existing foodborne pathogen transfer data. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
90. Netramai, S., M. Rubino, R. Auras, and E.T. Ryser. 2012. Impact of post-inoculation hold time when treating *Escherichia coli* O157:H7- and *Salmonella*- inoculated lettuce and tomatoes with chlorine dioxide gas. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
91. **Davidson, G.R., C.N. Kaminski, L. Ren, and E.T. Ryser**. 2012. Impact of organic load on *Escherichia coli* O157:H7 survival during pilot-scale processing of iceberg lettuce with acidified sodium hypochlorite. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
92. **Zeng, W., K.L. Vorst, B.P. Marks, F. Pérez-Rodríguez, and E.T. Ryser**. 2012. Monte Carlo simulation of *Escherichia coli* O157:H7 and *Listeria monocytogenes* growth in bagged salad greens during commercial transport, retail storage and display. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25. (Developing Scientist Competition Finalist).
93. James, M.K., S. Jeong, B.P. Marks, and E.T. Ryser. 2012. Impact of product water activity on the validity of thermal inactivation models for *Salmonella* on almonds. Ann. Mtg. Int. Assoc. Food Prot. Providence, RI, July 22-25.
94. **Ryser, E.T., B.P. Marks, E. Almenar, K. Dolan, K. Vorst, G. Wojtala, D. Schaffner, R. Scharff, R. Beaudry, M. Rubino, S. Jeong, M. Siddiq and J. Harte**. 2012. An integrated approach to enhance the microbial safety of fresh-cut fruits and vegetables during processing, packaging and distribution. USDA-NIFSI Meeting. Providence, RI, July 21.
95. Ryser, E.T., G.R. Davidson, and C.N. Kaminski. 2012. Impact of organic load on sanitizer efficacy and recovery of *E. coli* O157:H7 during commercial lettuce processing. Center for Produce Safety 3<sup>rd</sup> Annual Research Symposium, Davis, CA, June 27.
96. Benoit, A.N., B.P. Marks, E.T. Ryser, and S. Jeong. 2012. GloGerm powder as a surrogate to assess *Listeria monocytogenes* transfer between delicatessen turkey and a stainless steel surface. Ann. Mtg. Inst. Food Technol., Las Vegas, NV, June 25 – 28.
97. Lee, R., E.T. Ryser, D. Fulbright, and E. Almenar. 2012. Effect of rigid containers on the shelf life of shell-on chestnuts under retail storage conditions. Ann. Mtg. United Fresh, Dallas, TX, May 1.
98. Ryser, E.T., B.P. Marks, E. Almenar, K. Dolan, K. Vorst, G. Wojtala, D. Schaffner, R. Scharff, R. Beaudry, M. Rubino, S. Jeong, M. Siddiq and J. Harte. 2012. An integrated

- approach to enhance the microbial safety of fresh-cut fruits and vegetables during processing, packaging and distribution. Ann. Mtg. United Fresh, Dallas, TX, May 1.
99. Ryser, E.T. 2012. The problems of produce safety: Do sanitizers *really* work? 2012 Great Lakes Border Health Initiative Annual Conference, Plymouth, MI, April 24.
  100. Ryser, E.T. 2012. The problems of produce safety: Do sanitizers *really* work? Mich. Environ. Health Assoc. Ann. Edu. Conf., Kalamazoo, MI, March 29.
  101. Ryser, E.T. 2012. Potential impact of pathogen cross-contamination and growth on the safety of fresh produce. MSUE and MSU AgBioResearch State Council Meeting, Lansing, MI, March 20.
  102. **Wang, H., G.R. Davidson, and E.T. Ryser.** 2012. Microbial cross-contamination of tomatoes during washing with Tsunami 100 in a commercial packing line. American Phytopathological Society – Human Pathogens on Plants Workshop: Multidisciplinary strategy for research, Hyattsville, MD, February 13-15.
  103. **\*Ryser, E.T.** 2012. Microbiological safety of fresh produce. Spring Seminar Series - Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI, January 18.
  104. **\*Ryser, E.T.** 2011. Impact of organic load on sanitizer efficacy. Great Lakes Fruit, Vegetable and Farm Market Expo. Grand Rapids, MI, Dec. 6.
  105. **\* Ryser, E.T.** 2011. Food safety from farm-to fork: Are you safe at the plate? Kiwanis Club of Lansing. Lansing, MI, Dec. 1.
  106. **\* Ryser, E.T.** 2011. Food safety from farm-to fork: Are you safe at the plate? Rotary Club of Mason. Mason, MI, Nov. 3.
  107. **\* Ryser, E.T. 2011.** *Listeria monocytogenes* transfer during slicing of delicatessen meats. Arkansas Association for Food Protection – Annual Educational Conference. Springdale, AR, September 13 – 14.
  108. **Ryser, E.T.** 2010. MSU food safety update – USDA multistate food safety project. Fayetteville, AR, September 11-12.
  109. Brown, W., K.L. Vorst, **E.T. Ryser**, and R. Cisneros. 2011. Correlation of transit temperatures with the potential for *E. coli* O157:H7 growth on pre-cut greens. Ann. Mtg. Amer. Soc. Hort. Sci. Waikoloa, HI, September 25-28.
  110. **Ryser, E.T.** 2002. MSU food safety update – USDA multistate food safety project. Fayetteville, AR, Sept. 11-14.



111. **Kang, I.**, L. Zhang, Y. Xu, **E.T. Ryser**, J.Y. Jeong and J.B. Harte. 2011. Inhibitory effect of Proviaan (a co-spray dried mixture of sodium lactate and sodium diacetate) on the growth of *Listeria monocytogenes* in frankfurters stored at 4, 7 or 10°C. Intern. Congress Meat Sci Technol., Ghent, Belgium, August 7 – 12.
112. \* **Ryser, E.T.** 2011. Potential impact of pathogen cross-contamination and growth on food safety risks associated with leafy greens. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
113. **Buchholz, A.L., G.R. Davidson**, and **E.T. Ryser**. 2011. Impact of post-inoculation hold time on *Escherichia coli* O157:H7 transfer during commercial production of fresh-cut leafy greens. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
114. **Buchholz, A.L., K M. Neoh**, and **E.T. Ryser**. 2011. Quantitative transfer of *Escherichia coli* O157:H7 from inoculated to uninoculated leafy greens during shaker table dewatering. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
115. **Davidson, G.R., Y. Xu**, and **E.T. Ryser**. 2011. Persistence of *Escherichia coli* O157:H7 during pilot-scale processing of iceberg lettuce using flume water containing sanitizers and an organic load. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3. (Developing Scientist Award – 1<sup>st</sup> place, Oral Competition).
116. **Davidson, G.R., H. Wang**, and **E.T. Ryser**. 2011. Impact of organic load on sanitizer efficacy against *Escherichia coli* O157:H7 in simulated leafy green processing water. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
117. **Kaminski, C.N., G.R. Davidson**, and **E.T. Ryser**. 2011. *Listeria monocytogenes* transfer during mechanical dicing of celery and growth during subsequent storage. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
118. **Moosekian, S.R.**, and **E.T. Ryser**. 2011. Enhanced resistance of sanitizer-injured *E. coli* O157:H7 on baby spinach during X-ray irradiation. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
119. **Zeng, W.**, K.L. Vorst, B.P Marks, S. Jeong, and **E.T. Ryser**. 2011. Growth of *Escherichia coli* O157:H7 and *Listeria monocytogenes* in packaged fresh-cut Romaine lettuce at fluctuating temperatures during commercial transport and distribution. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3. (Developing Scientist Competition Finalist)
120. **Wang, H.**, and **E.T. Ryser**. 2011. Quantitative transfer of *Salmonella* to water and equipment during simulated commercial washing of tomatoes. Ann. Mtg. Int. Assoc. Food

- Prot. Milwaukee, WI, July 31 - August 3. (Developing Scientist Award - 2<sup>nd</sup> place, Poster Competition).
121. Hildebrandt, I.M., B.P. Marks, N.O. Hall, M.K. James, A.M. Booren, and E.T. Ryser. 2011. Pilot-scale validation of a *Salmonella* thermal inactivation model applied to whole-muscle meat and poultry products cooked in a moist-air impingement oven. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
  122. Tenorio-Bernal, M.I., B.P. Marks, A.M. Booren, and E.T. Ryser. 2011. A universal thermal inactivation model for *Salmonella* in meat and poultry products. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
  123. James, M.K., B.P. Marks, E.T. Ryser, and S. Jeong. 2011. Evaluation of critical process parameters for *Salmonella* inactivation on almonds subjected to thermal pasteurization. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
  124. Jeong, S., B.P. Marks, and E.T. Ryser. 2011. Low-energy X-ray irradiation against *Escherichia coli* O157:H7 in ground beef of different fat contents and product temperatures. Ann. Mtg. Int. Assoc. Food Prot. Milwaukee, WI, July 31 - August 3.
  125. \* Davidson, G.R., H. Wang, and E.T. Ryser. 2011. Impact of organic load on sanitizer efficacy against *Escherichia coli* O157:H7 in simulated leafy green processing water. CPS Produce Research Symposium, Orlando, FL, June 27-28.
  126. Hessell, G., L. Zhang, Y. Xu, E.T. Ryser, J.Y. Jeong and J.B. Harte. 2011. Inhibitory effect of Provia (a co-spray dried mixture of sodium lactate and sodium diacetate) on the growth of *Listeria monocytogenes* in low-sodium frankfurters stored at 4, 7 or 10°C. Reciprocal Meat Conf., Manhattan, KS, June 19-23.
  127. Brown, W., R. Cisneros, K. Vorst, A. Jahnke and E.T. Ryser. 2011. Temperature profiling of fresh-cut produce during transport. Ann. Mtg. Inst. Food Technol., New Orleans, LA, June 11-14.
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