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Alejandro Echeverry, Ph.D
Texas Tech University
Department of Animal and Food Sciences Box 42141
Lubbock, Texas 79409-2141
Phone: (806) 834-8733
Fax: (806) 742-4003
alejandroecheverry@ttu.edu

EDUCATION

- 2000 Bachelor of Science in Food Engineering, Corporación Universitaria Lasallista, Medellin (Colombia).
2004 Master of Science in Food Science, Texas Tech University (USA).
2007 Doctor of Philosophy in Animal Science with an emphasis in Food Microbiology, Texas Tech University (USA).

PROFESSIONAL EXPERIENCE

- 1998 – 1999 Food Safety Consultant & Quality Control Supervisor, Alimentos LAM, Medellin (Colombia).
2000 – 2001 Regional Franchise Restaurant Operations Manager, KFC/Francoper, Medellin (Colombia).
2002 - 2007 Graduate Research Assistant, Texas Tech University (USA).
2008 - 2009 Post-Doctoral Research Associate, Texas Tech University (USA).
2010 – 2014 Research Assistant Professor, Texas Tech University (USA).
2014 – 2021 Assistant Professor, Texas Tech University (USA).
2021 – Present Associate Professor of Practice, Texas Tech University (USA).

LICENSES AND CERTIFICATIONS

- 1999 Food Packaging and Logistics for the Food Industry Certificate. National Training Service (SENA), Medellin (Colombia).
1999 Application of ISO 9000 to the Food Industry certificate. Corporacion Universitaria Lasallista, Medellín (Colombia).
1999 HACCP and Total Quality Systems in the Food Industry certificate. Corporación Universitaria Lasallista, Medellín (Colombia).
2000 Environmental Management and ISO 14000 for the Food Industry. Corporación Universitaria Lasallista, Medellín (Colombia).
2002 HACCP implementation and management. International HACCP Alliance
2004 ServSafe Food Protection Manager Certification. National Restaurant Educational Foundation (NRAEF).

- 2007 HACCP Instructor – International HACCP Alliance.
- 2016 Preventive Controls Qualified Individual (PCQI) Certificate. Preventive Controls for Human Food. Food Safety Preventive Controls Alliance (FSPCA).
- 2020 Basic Introduction to Biosafety – Stage 1 Biosafety/Biosecurity. Completion Record ID: 19491711 - Citi Program Certificate
- 2020 Working with Mice in Research – Stage 1 – Lab Animal Research Texas Tech University. Completion Record ID: 37296686 - [Citi Program Certificate](#)
- 2020 Basic Introduction to Biosafety, Stage 1, biosafety/biosecurity Texas Tech University. Completion Record ID: 41706568 – [Citi Program Certificate](#)
- 2021 Animal Biosafety, Texas Tech University. Completion Record ID: 37296689 - [Citi Program Certificate](#)
- 2021 Biosafety Retraining, Stage 1, biosafety/biosecurity, Texas Tech University . Completion Record ID: 37296688 – [Citi Program Certificate](#)
- 2021 Conflict of Interest Mini-Course, Stage 1, Texas Tech University - Completion Record ID: 37296682 - [Citi Program Certificate](#)
- 2021 Initial Biosafety Training, Stage 1 – Biosafety/Biosecurity, Texas Tech University. Completion Record ID: 19491712 - [Citi Program Certificate](#)
- 2021 Dual Use Research of Concern (DURC) – Biosafety / Biosecurity, Texas Tech University. Completion Record ID: 37296691 – [Citi Program Certificate](#)
- 2021 Emergency and Incident Response to Biohazard Spills and Releases. Biosafety / Biosecurity, Texas Tech University. Completion Record ID: 19491715 – [Citi Program Certificate](#)
- 2021 Institutional Biosafety Committee Member Training. Biosafety / Biosecurity, Texas Tech University. Completion Record ID: 37296692 [Citi Program Certificate](#)
- 2021 Personal Protective Equipment. Biosafety / Biosecurity, Texas Tech University. Completion Record ID: 37296693 [Citi Program Certificate](#)
- 2021 Select Agents, Biosecurity, and Bioterrorism. Stage 1 - Biosafety/Biosecurity, Texas Tech University. Completion Record ID: 19491714 [Citi Program Certificate](#)

INTERNATIONAL EXPERIENCE

Organization and Instruction of International Workshops:

1. Instructor for a 3-day HACCP Implementation Workshop – **Puebla, Mexico**, 2009.
2. Instructor for a 3-day HACCP Implementation Workshop – **Veracruz, Mexico**, 2009.

3. Instructor for a 3-day current Good Manufacturing Practices (cGMPs) and HACCP Implementation for slaughter plants Workshop – **Cuernavaca, Mexico**, 2011.
4. Co-Instructor for a 2-day SSOP, Meat HACCP and Food Safety Workshop for the beef Industry – **San Pedro Sula, Honduras**, 2011. Inter American Institute for Cooperation in Agriculture (IICA).
5. Co-Instructor for a 2-day Food Safety and Inspection Service Auditing for the beef Industry – **San Pedro Sula, Honduras**, 2011. Foreign Agricultural Service (FAS-USDA).
6. Instructor for a 4-day, 4-cities workshop on Pathogen Reduction and Control Implementation for the beef industry Workshop – **Medellin, Monteria, Bucaramanga & Bogota, Colombia** (2013). Productive Transformation Program ([PTP](#)) of the Colombian Ministry of Commerce, Industry and Tourism.
7. Co-instructor for a 4-day Ante-mortem and Post-mortem Inspection, Good Manufacturing Practices during Beef Production and Processing, Prerequisite Programs and HACCP [Workshop](#). **Santo Domingo, Dominican Republic**, 2013. Inter American Institute for Cooperation in Agriculture (IICA).
8. Instructor for a 3-day HACCP implementation and Management workshop. **Managua, Nicaragua**, 2013. Inter American Institute for Cooperation in Agriculture (IICA).
9. Co-instructor for a 4-day for a Post-mortem inspection, Good Manufacturing Practices during Beef Production and Processing, Prerequisite Programs and HACCP Workshop. **Santiago, Panama**, 2013. Inter American Institute for Cooperation in Agriculture (IICA).
10. Instructor for a 3-day HACCP implementation and management in the aquaculture industry workshop. **San Lorenzo, Honduras**, 2013. Grupo Granjas Marinas.
11. Instructor for a 3-day Advanced HACCP and CCP Validation for the Beef Industry Workshop. **Medellin, Colombia**, 2014. Universidad Pontificia Bolivariana.
12. Co-instructor for a 3-day HACCP Implementation and Ante-mortem/Post-mortem Inspection workshop. **San Jose, Costa Rica**, 2014.
13. Instructor for a Workshop on the Principles of HACCP. **Nassau, Bahamas**, 2014). Inter American Institute for Cooperation in Agriculture (IICA).
14. Co-Instructor for a 2-day workshop on Risk assessment tools for poultry production. **Bogota, Colombia**. National Federation of Poultry Farmers Of Colombia (FENAVI). 2015.
15. Co-Instructor for a Workshop on Global Food Security. **Nassau, Bahamas**, 2015.

16. Instructor for a 2-day Sanitation Standard Operating Procedure Workshop for Inspectors. **Cali, Colombia**, 2015. Colombian National Food and Drug Surveillance Institute (INVIMA).
17. Co-Instructor for a 2-day Sanitation Standard Operating Procedure Workshop for Inspectors. **Bogota, Colombia**, 2015. Colombian National Food and Drug Surveillance Institute (INVIMA).

Invited International Presentations and Talks:

1. Meat Industry Technological Innovation Symposium. **Mexico City, Mexico**, 2008. Mexican Meat Council. “Meat Safety and HACCP implementation in the United States”.
2. Meat Science and Technology Colloquium. **Mexico City, Mexico**, 2009. Universidad Autonoma Metropolitana Iztapalapa. “Microbial profiles of beef and pork products in Mexican markets”.
3. VIII Poultry Processing and Safety Symposium (ANECA). Querétaro, Mexico, 2010. “Evaluation of Participants’ Knowledge scores in an International HACCP Workshop”.
4. VIII Poultry Processing and Safety Symposium (ANECA). **Querétaro, Mexico**, 2010. “Food Safety, a systems approach - Antimicrobial Interventions in the Poultry processing environment”.
5. 4th International Caribbean Congress and 2nd Latin American Congress “on Safety, Quality and Functionality of Foods in the Food Industry (SOMEICCA). **Cancun, Mexico**, 2011. “Comparison of pathogenic loads from TIF and non-TIF slaughterplants in Mexico”
6. IV Latin American and Caribbean Congress on Food Quality and Hygiene, and III International Symposium on Food Safety (SINDA). **Bogota, Colombia**, 2011. “Antimicrobial controls in slaughter and processing plants”
7. Asia Pacific Economic Cooperation Food Safety Cooperation Forum's Partnership Training Institute Network (APEC - FSCF - PTIN) Regional Laboratory Capacity Building Workshop. **Bangkok, Thailand**, 2011. “APEC Laboratory Capacity Assessment Results”.
8. Asia Pacific Economic Cooperation Food Safety Cooperation Forum's Partnership Training Institute Network ([APEC - FSCF - PTIN](#)) Regional Laboratory Capacity Building Workshop. **Bangkok, Thailand**, 2011. “APEC Laboratory Capacity Building - Overview and Assessment of Findings”.
9. Mexican Meat Council (Comecarne). **Morelos, Mexico**, 2011. “Good Manufacturing practices (GMPs) and Hazard Analysis and Critical Control Points (HACCP) implementation”.

10. Universidad Nacional Autonoma de Honduras (UNAH). **Tegucigalpa, Honduras**, 2012. “Capacity Building Initiatives in Food Safety in Latin America”.
11. Universidad Nacional Autonoma de Honduras (UNAH). **Tegucigalpa, Honduras**, 2012. “Research and Graduate School Opportunities at Texas Tech University”.
12. 5th International Caribbean Congress and 2nd Latin American Congress on Safety, Quality and Functionality of Foods in the Food Industry (SOMEICCA). **Mazatlan, Sinaloa, Mexico**, 2012. “Comparison of pathogenic loads from TIF and non-TIF slaughterplants in Mexico”.
13. 1st International Multi and Interdisciplinary Engineering Congress. Instituto Tecnológico Superior de Cintalapa. **Chiapas, Mexico**, 2012. “Red meat safety: factors to control during processing”.
14. InterAmerican Institute for Cooperation in Agriculture (IICA) Bahamas Needs Assessment Meeting. **Nassau, Bahamas**, 2013. “Food Safety and Security Research Needs of Mutual Interest to U.S., Latin America and the Caribbean: A Team Approach”.
15. InterAmerican Institute for Cooperation in Agriculture (IICA) Bahamas Needs Assessment Meeting. **Nassau, Bahamas**, 2013. “Training Programs for Producers, Processors and Regulatory Agencies in Latin America and the Caribbean”.
16. National Beef Cattle Federation (FEDEGAN). **Bogota, Colombia**, 2013. “Benefits of Implementing a Pathogen (*E. coli* and *Salmonella*) Reduction Program”.
17. National Beef Cattle Federation (FEDEGAN). **Monteria, Colombia**, 2013. “Design and Implementation of a Pathogen Reduction and residues Program Baseline”.
18. National Beef Cattle Federation (FEDEGAN). **Bucaramanga, Colombia**, 2013. “The Food and meat products control system in the U.S.: Requirements and Regulations for Colombian exporters”.
19. International Healthy Foods Forum. (Organized by SAGARPA - Mexican Ministry of Agriculture and Rural Development). **Guadalajara, Jalisco (Mexico)**, 2014. “Implementation of Pathogen Reduction Programs and Baselines in Latin America”.
20. Application Of Tools For Prioritization And Risk Management In The Food Production Chain Workshop. **Bogota, Colombia**. 2014. “Food Safety tools and software for lethality validation”.
21. VI Internacional Agri-foods Symposium. Universidad de Cordoba. **Monteria, Colombia**, 2019. “Hygienic parameters for food processing plants: Minimum requirements to ensure food safety”.

22. VI Internacional Agri-foods Symposium. Universidad de Cordoba. **Monteria, Colombia**, 2019. “New technologies and microbiological interventions update: innovations to improve the safety of meat products”.

International Research Activities:

1. Evaluation and training on the use of Microwave prototype for bread pasteurization / inhibition of mold. Three-week technical training and evaluation of parameters for food quality extension . **Brescia, Italy**. ITACA New Tech Srl. 2008.
2. Collected beef fecal, hide, and carcass samples for Baseline research. **Mexico City, Mexico**. 2009.
3. Collected beef fecal, hide, and carcass samples for Baseline research. **Guadalajara, Mexico**. 2009.
4. Collected beef fecal, hide, and carcass samples for Baseline research. **Veracruz, Mexico**. 2009.
5. Collected beef fecal, hide, and carcass samples for Baseline research. **Monterrey, Mexico**. 2010.
6. Collected beef and pork fecal, hide, and carcass samples for Baseline research. **Mexico City, Mexico**. 2009.
7. Argentinian Beef Promotion Institute (IPCVA). **Buenos Aires, Argentina**. Reducing the burden of STEC-Induced Hemolytic Uremic Syndrome in Argentina. Workshop Attendee, panel member, and trainer on microbiological methodologies to detect the pathogen. 2010.
8. Collected and purchased retail meat samples for microbial analysis. **San Pedro Sula and Tegucigalpa, Honduras**. 2011.
9. Collected beef fecal, hide and carcass samples for microbial analysis and conducted food safety assessment for slaughter plant. **Cuautla, Mexico** 2011.
10. Collected beef fecal, hide, and carcass samples for Baseline research. **Veracruz, Mexico**. 2011.
11. Collected beef fecal, hide, and carcass samples for Baseline research. **San Jose, Costa Rica**. 2012.
12. Collected beef fecal, hide, and carcass samples for Baseline research and purchased retail meat and vegetables samples for microbial analysis. **Tegucigalpa, Honduras**. 2012.
13. Food Safety Assessment for the development of a National Biosecurity Plan for the Government of Honduras (National Agri Food Health and Safety Service, SENASA) to prevent Early Mortality Syndrome / Hepatopancreatic Acute Necrosis Syndrome in the Shrimp Industry. **San Lorenzo, Honduras**. 2013.
14. Collected goat fecal, hide, and carcass samples for baseline research. **New Providence, Bahamas**. 2013.

15. Collected beef and pork fecal, hide, and carcass samples for Baseline research. **Merida and Cancun, Mexico.** 2013.
16. Collected beef fecal, hide, and carcass samples for Baseline research. **San Jose de Costa Rica, Costa Rica.** 2013.
17. Collected goat fecal, hide, and carcass samples for preliminary baseline research. **New Providence and Eleuthera, Bahamas.** 2014.
18. Collected beef and pork fecal, hide, and carcass samples for Baseline research. **Merida and Cancun, Mexico.** 2014.
19. Collected beef and pork fecal, hide, and carcass samples for Baseline research. **Veracruz, Mexico.** 2014.
20. Collected beef and pork fecal, hide, and carcass samples for Baseline research. **Merida and Cancun, Mexico.** 2014.
21. Collection of Environmental samples for Preliminary Assessment of Antimicrobial Resistance Profiles of Bacteria in a shrimp production farm. **Choluteca, Honduras.** 2015.
22. Collected beef fecal, hide, and carcass samples for Baseline research. **Siguatepeque, Honduras.** 2015.

International Education and Collaboration Activities:

1. International Symposium on Veterinary Epidemiology and Economics (ISVEE 11). **Cairns, Australia.** Activity, conference attendee. 2005.
2. 1st International Association for Food Protection (IAFP) Latin American Symposium on Food Safety. **Campinas, Brazil.** Activity, Attendee, Presented 3 posters. 2008.
3. 7th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections (VTEC). **Buenos Aires, Argentina.** Activity, Conference attendee. 2009.
4. XVI International Cycle of Conferences on Poultry Science. **Veracruz, Mexico.** Graduate School Campus Cordoba University. Attendee, panel meeting. 2009.
5. 2nd International Association for Food Protection (IAFP) Latin American symposium on food safety and .XVI Latin American Seminar of Food Science and Technology (ALACCTA). **Bogota, Colombia.** Activity, Conference Attendee and Presenter. 2010.
6. VIII Poultry Processing and Safety Symposium. **Queretaro, Mexico.** Attendee, Activity. 2010.
7. 8th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections (VTEC). **Amsterdam, The Netherlands.** Activity, Conference attendee. 2012.

8. Strategic research planning meeting on Food Safety Collaboration at The French Agency for Food, Environmental and Occupational Health & Safety (ANSES). **Paris, France.** Activity, attendee. 2012.
9. 5th International Congress and 3rd Latin-American Congress of Food Safety Quality and Food Functionality in the food industry. **Mazatlan, Mexico.** Attendee. 2012.
10. International Symposia on Veterinary Epidemiology and Economics (ISVEE 14). **Merida, Mexico.** Activity, conference attendee. 2015.
11. International Congress on Engineering and Food (ICEF12). **Quebec, Canada.** Activity, Attended. 2015.
12. Meeting with the President of Honduras regarding food safety and research conducted in Honduras. **Tegucigalpa, Honduras.** 2015.
13. Attended and Represented Texas Tech University at National Agriculture and [Livestock Extension Program Agreement](#). **Tegucigalpa, Honduras.** Universidad Agricola El Zamorano. 2016.
14. Attended the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC). **Medellin, Colombia.** Conference attendee, presenter. 2016.
15. 5th International Association for Food Protection (IAFP) Latin America Symposium on Food Safety and 7th Food Science, Biotechnology and Safety Meeting by the Mexican Association for Food Science. **Cancun, Mexico.** Attendee, presenter, activity. 2016.

MEMBERSHIP IN PROFESSIONAL AND HONORARY SOCIETIES

Professional:

1. Colombian Association of Food Technology (*Asociación Colombiana de Ciencia y Tecnología de Alimentos - ACTA*), 1998-2000
2. International Association for Food Protection (IAFP), 2003 –present.
3. Institute of Food Technologists (IFT) 2002 – present.
4. Institute of Food Technologists (IFT) Longhorn Section, 2010 –present.
5. American Society for Quality (ASQ). 2005-2007.
6. American Society for Microbiology (ASM), 2006-2009; 2019-present).
7. American Biological Safety Association (ABSA), 2006 – 2008.
8. American Meat Science Association (AMSA), 2007 –present.
9. American Association for the Advancement of Science (AAAS), 2008-2012.
10. Association for International Agricultural and Extension Education (AIAEE), 2014 –2017.
11. Texas Association of College Teachers (TACT), 2015-present.
12. Institute for Thermal Processing Specialists (IFTPS). 2020 - present

Honorary:

1. Gamma Sigma Delta, The National Honor Society of Agriculture, 2007-2015.

HONORS AND AWARDS

Honors:

1. Exemplary R&D Collaborations: Agriculture, Food, Nutrition, and Natural Resources. R&D Round Table Recognition: Showcasing Exemplary Collaborations. [The Farm Foundation](#), Washington, D.C., 2011.
2. Texas Tech University Outstanding Undergraduate Faculty Mentor Award. Center for Active Learning and Undergraduate Engagement (CALUE), Texas Tech University, Lubbock, TX – 2013.
3. Nominated for the American Meat Science Association (AMSA) Young Professional Achievement Award, 2014.
4. Nominated for the American Meat Science Association (AMSA) Achievement Award, 2015.
5. Nominated by student (Katelyn Ortega) to the Professing Excellence Award, Texas Tech University, 2015.

Awards:

1. 3rd Place Bob Albin Graduate Student Research Award. Department of Animal and Food Sciences, Texas Tech University, 2006.
2. Helen DeVitt Jones Graduate Fellowship. College of Agriculture and Natural Resources (CASNR), Texas Tech University, Lubbock, TX, 2007-2008

AREA OF EXPERTISE

The purpose of my program is to improve food safety and protecting public health by contributing to reduce the presence likelihood of foodborne pathogens in foods and food processing environment. My specialization and research is in the broad area of food science, food microbiology, and food safety. My research program focuses on 1) pre- and post-harvest beef and pork food safety, control, mitigation and elimination of microorganisms and foodborne pathogens in foods for quality and safety purposes with the use of chemical interventions or application of directional microwaves, and 2) increase capacity to understand the connection and combat antimicrobial resistance (AMR) and multidrug resistance (MDR) presence in microorganisms found in foods by identifying and determining factors affecting selection, dissemination and spread of these “superbugs”.

PATENTS

None to report

PUBLICATIONS

Books: total of 0

Book Chapters: total of 2

1. Claudia Narvaez-Bravo, **Alejandro Echeverry**. 2008. Aspectos importantes sobre la inocuidad de la carne de res ("*Important Aspects And Facts On The Safety Of Fresh Beef Meat*"). In Desarrollo Sostenible En La Ganaderia De Doble Proposito. Ediciones Astro Data, S.A. Maracaibo, Venezuela. ISBN: 978-980-6863-05-7. Chapter: LXXVI, PP:898-910.
2. Angela Laury, **Alejandro Echeverry**, Mindy M. Brashears. 2009. Fate of *Escherichia coli* O157:H7 in meat. In Safety of Meat and Processed Meats, Food Microbiology and Food Safety series. (Toldra, F. ed.). Springer Science, New York, New York. ISBN: 978-0-387-89025-8 Chapter 2, PP:31-53.

Books and Book Chapters Edited: total of 0

Referred Journals: total published 46, in press 0 *Denotes graduate student advisee or mentee, post-doc, or visiting scientist

Published: *Denotes supervised or co-advised TTU Students.

§Denotes Correspondence Author for the Article.

Impact factors for each journal found using: <https://www.scijournal.org/>

1. **Echeverry, A.**, G. H. Loneragan, B. A. Wagner, and M. M. Brashears§. 2005. Effect of intensity of fecal pat sampling on estimates of *Escherichia coli* O157. *American Journal of Veterinary Research*. Vol. 66 (12): 2023 – 2027. **(Impact Factor 2005: 1.37)**
2. **Echeverry A**, G. H. Loneragan, M. M. Brashears§. 2006. Survival of *Escherichia coli* O157:H7 In Bovine Feces Over Time Under Various Temperature Conditions. *Journal of Food Protection*. Vol. 69 (12): 2851-2855. **(Impact Factor 2006: 2.112)**
3. T. C. Lowrance, G. H. Loneragan, D. J. Kunze, T. M. Platt, S. E. Ives, H. M. Scott, B. Norby, **A. Echeverry**, M. M. Brashears§. 2007. Changes in antimicrobial susceptibility in a population of *Escherichia coli* isolated from feedlot cattle administered ceftiofur crystalline-free acid. *American Journal of Veterinary Research*. Vol. 68 (5): 501-507. **(Impact Factor 2007: 1.50)**
4. D.G. Lakins, **A. Echeverry**, C.Z. Alvarado, J.C. Brooks, M. T Brashears, and M.M. Brashears§. 2008. Quality of and Mold Growth on White Enriched Bread for Military Rations Following Directional Microwave treatment. *Journal of Food Science*. Vol. 73 (3): M99 - M103. **(Impact Factor 2008: 1.910)**
5. Laury, AM., M. V. Alvarado, G. Nace, C. Z. Alvarado, J. C. Brooks, **A. Echeverry**, and M. M. Brashears. 2009. Validation of a Lactic Acid– and Citric Acid–Based Antimicrobial Product for the Reduction of *Escherichia coli* O157:H7 and *Salmonella* on

- Beef Tips and Whole Chicken Carcasses. *Journal of Food Protection*. Vol. 72 (10): 2208-2211. **(Impact Factor 2009: 2.252)**
6. **Echeverry, A.**, J. C. Brooks, M. F. Miller, J.A. Collins, G. H. Loneragan, and M. M. Brashears§. 2009. Validation of Intervention Strategies to Control *Escherichia coli* O157:H7 and *Salmonella* Typhimurium DT 104 in Mechanically Tenderized and Brine Enhanced Beef. *Journal of Food Protection*. Vol. 72 (8): 1616-1623. **(Impact Factor 2009: 2.252)**
 7. Fluckey, W.M., G. H. Loneragan, R. D. Warner, **A. Echeverry**, and M. M. Brashears§. 2009. Diversity and Susceptibility of *Enterococcus* Isolated from Cattle before and after Harvest. *Journal of Food Protection*. Vol. 72 (4):766-774. **(Impact Factor 2009: 2.252)**
 8. **Echeverry**, J. C. Brooks, M. F. Miller, J. A. Collins, G. H. Loneragan, and M. M. Brashears§. 2010. Validation Of Lactic Acid Bacteria, Lactic Acid, And Acidified Sodium Chlorite As Decontaminating Interventions To Control *Escherichia coli* O157:H7 And *Salmonella* Typhimurium DT 104 In Mechanically Tenderized And Brine Enhanced (Non - Intact) Beef At The Purveyor. *Journal of Food Protection*. Vol. 73 (12): 2169-2179. **(Impact Factor 2010: 2.092)**
 9. Brown, A*, J.C. Brooks, E. Karunasena, **A. Echeverry**, A. Laury, and M.M. Brashears§. 2011. Inhibition of *Escherichia coli* O157:H7 and *Clostridium sporogenes* in Spinach Packaged in Modified Atmospheres After Treatment with Chlorine and Lactic Acid Bacteria. *J. Food Sci.* 76(6):M427-M432. **(Impact Factor 2011: 2.551)**
 10. Vipham, Jessie L.; Brashears, Mindy M.; Loneragan, Guy H.; **Echeverry, Alejandro**; Brooks, J. Chance; Chaney, W. Evan; Miller, Mark F§. 2012. *Salmonella* and *Campylobacter* Baseline in Retail Ground Beef and Whole-Muscle Cuts Purchased during 2010 in the United States. *J Food Prot.* Dec; 75(12): 2110-2115. DOI: <http://dx.doi.org/10.4315/0362-028X.JFP-12-077> **(Impact Factor 2012: 2.161)**
 11. Wolf MJ, Miller MF, Parks AR, Loneragan GH, Garmyn AJ, Thompson LD, **Echeverry A**, Brashears MM§. 2012. Validation Comparing the Effectiveness of a Lactic Acid Dip with a Lactic Acid Spray for Reducing *Escherichia coli* O157:H7, *Salmonella*, and Non-O157 Shiga Toxigenic *Escherichia coli* on Beef Trim and Ground Beef. *J Food Prot.* Nov; 75(11):1968-73. DOI: <http://dx.doi.org/10.4315/0362-028X.JFP-12-038> **(Impact Factor 2012: 2.161)**
 12. Brashears MM, Garmyn AJ, Brooks JC, Harris D, Loneragan G, **Echeverry A**, Jackson TE, Mehaffey JM, Miller MF§. 2012. Microbial quality of condensation in fresh and ready-to-eat processing facilities. *Meat Sci.* Mar;90(3):728-32. DOI: <http://dx.doi.org/10.1016/j.meatsci.2011.11.003> **(Impact Factor 2012: 3.739)**
 13. Rubio L. Maria Salud§, Martínez B. Jose Fernando, Hernández C. Rigoberto, Bonilla C. Cynthia, Méndez M. Ruben Danilo, Núñez E. Jose Fernando, **Alejandro Echeverry** and Mindy M. Brashears. 2013. Detection of *Listeria monocytogenes*, *Salmonella* and *Yersinia enterocolitica* in beef at points of sale in Mexico. *Revista Mexicana de Ciencias Pecuarias.* 4 (1):107-115. Available at:

- <http://www.tecnicapecuaria.org.mx/trabajos/201301104033.pdf> (**Impact Factor 2013: 0.232**)
14. Claudia Narvaez-Bravo , Mark F. Miller , Tanya Jackson , Sam Jackson , Argenis Rodas-Gonzalez , Kevin R. Pond , **Alejandro Echeverry** and Mindy M. Brashears§. 2013. *Salmonella* and *E. coli* O157:H7 Prevalence in Cattle and on Carcasses in a Vertically Integrated Feedlot and Harvest Plant in Mexico. *J Food Prot.* Vol.76 (5):786-795. ([Link](#)) (**Impact Factor 2013: 2.23**)
 15. Byron D. Chaves, Martha Maradiaga, M. Alexandra Calle, Leslie Thompson, Samuel P. Jackson, Tanya Jackson, Marcus F. Miller, Lyda G. Garcia, **Alejandro Echeverry**, Henry Ruiz, and Mindy M. Brashears§. 2013. Evaluation of process control to prevent contamination of beef with non-O157 Shiga toxin-producing *Escherichia coli* (STEC) in U.S. export abattoirs in Honduras and Nicaragua. *Food Protection Trends*. Vol. 33 (4):224-230. ([Link](#)) (**Impact Factor 2013: 0.457**)
 16. Gragg SE, Loneragan GH, Nightingale KK, Brichta-Harhay DM, Ruiz H, Elder JR, Garcia LG, Miller MF, **Echeverry A**, Ramírez Porrás RG, Brashears MM§. 2013. Substantial Within-Animal Diversity of *Salmonella* Recovered from Lymph Nodes, Feces and Hides of Cattle at Slaughter. *Appl. Environm. Microbiol.* Vol. 79(15):4744-4750. ([Link](#)) (**Impact Factor 2013: 5.108**)
 17. Cassandra Chancey, Jennifer Martin, **Alejandro Echeverry**, Sam Jackson, Leslie Thompson , Mindy Brashears, and J. Chance Brooks§. 2013. Survivability of *Escherichia coli* O157:H7 in needle-tenderized beef steaks subjected to lactic acid application and cooking under simulated industry conditions. *Journal of Food Protection*. Vol 76 (10): 1778-1783. ([Link](#)). (**Impact Factor 2013: 2.23**)
 18. Porter, H., Brashears, T§., Brashears, M., Irlbeck, E., Newsome, S., Winterholler-Trojan, S., **Echeverry, A.**, McKenney, C., Loneragan, S. 2013. Determining the problems, impacts and potential solutions for the agricultural industry of Belize: A needs assessment. *Journal of International Agricultural and Extension Education*. Vol. 20 (2):122 – 124. ([Link](#)) (**Impact Factor 2013: 0.517**)
 19. Liao YT, Miller MF, Loneragan GH, Brooks JC, **Echeverry A**, Brashears MM§. 2014. Non-O157 Shiga toxin-producing *Escherichia coli* in U. S. retail ground beef. *Journal of Food Protection*. Jul: 77(7):1188-92. doi: 10.4315/0362-028X.JFP-13-518 (**Impact Factor 2014: 2.411**)
 20. **Alejandro Echeverry**§. 2014. Clarification on enhancement process in cited reference. *Meat Science*, Volume 98, Issue 4, December, Page 574. [doi:10.1016/j.meatsci.2014.06.039](https://doi.org/10.1016/j.meatsci.2014.06.039) (**Impact Factor 2014: 3.754**)
 21. Martha Maradiaga, Mark F. Miller, Leslie Thompson, Ansen Pond, Sara E. Gragg, **Alejandro Echeverry**, Lyda G. Garcia, Guy H. Loneragan, and Mindy M. Brashears§. 2014. *Salmonella* in Beef and Produce from Honduras. *Journal of Food Protection* Vol. 78(3):498-502. doi:10.4315/0362-028X.JFP-14-450. (**Impact Factor 2014: 2.411**)
 22. Morales, Sarahi, Sara Trojan, **Alejandro Echeverry**, Mindy M. Brashears, and M. Todd

- Brashears§. 2014. An evaluation of the needs of stakeholders within the Bahamian Food Production – Consumption Continuum. *Journal of International Agricultural and Extension Education*. Vol. 21(2):Summer:22-24, doi:5191/jiaee.2014.21207 (**Impact Factor 2014: 0.170**)
23. Byron D. Chaves, **Alejandro Echeverry**, Markus F. Miller, Mindy M. Brashears§. 2015. Prevalence of molecular markers for *Salmonella* and Shiga toxin-producing *Escherichia coli* (STEC) in whole-muscle beef cuts sold at retail markets in Costa Rica. *Food Control*. 50:497-501. doi:10.1016/j.foodcont.2014.09.024 (**Impact Factor 2015: 4.110**)
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In Press:

1. None

Under Preparation: total of 9

1. David A Vargas, Markus F Miller, Dale R Woerner, **Alejandro Echeverry**§. 2021. Evaluation of Pork Chops shelf-life as Influenced by the Application of Different Antimicrobial Interventions. (*To be submitted to Foods*)
2. Ashley Orange*, Mindy M. Brashears, Marcos X. Sánchez-Plata, and **Alejandro Echeverry**§. 2021. Use of Interventions to reduce *Salmonella* in post-harvest hot pork carcasses and chilled pork head meat. *Submitted to Meat and Muscle Biology* (Under review. Submitted May 8 2020 – Article ID 11215)
3. Darvin Abel Cuellar*, Don Stull, **Alejandro Echeverry**§. 2020. Use of novel microwave prototype for inactivation of quality and pathogenic bacteria in flour tortillas and beef jerky. *To be Submitted to Applied and Environmental Microbiology*.
4. Arvelo, Ilan, Orange, Ashley*, Loron Pinnock Brown, **Alejandro Echeverry**, Marcos X. Plata-Sanchez§. 2021. Case studies in Food Safety: Outbreak of *Salmonella* Typhimurium linked to peanut butter (2008-2009) - Just Ship It! (*To be Submitted to Food Protection Trends*).
5. Gabriela Arteaga, Andrea English, Loron Pinnock Brown, **Alejandro Echeverry**, Marcos X. Plata-Sanchez§. 2021. Case Studies in Food Safety: Outbreak of *Cyclospora cayentanensis* in Mexican Fresh Cilantro, 2015. (*To be Submitted to Food Protection Trends*).
6. Jessica Baggerman, Erin Castelli, Loron Pinnock Brown, **Alejandro Echeverry**, Marcos X. Plata-Sanchez§. 2021. Case Studies in Food Safety: Blue Bell Creameries Recall Due to *Listeria monocytogenes*. (*To be Submitted to Food Protection Trends*).
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8. Cuellar, Darvin*, Mansour Alnajrani, Loron Pinnock Brown, Marcos X. Plata-Sanchez, **Alejandro Echeverry**§. 2021. Case Studies in Food Safety: Maple Leaf Foods *Listeria* Outbreak (2008). (*To be Submitted to Food Protection Trends*).
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Manuscripts Under Internal Review (by co-authors): **6**

1. Vanthana Doraiswamy*, Darvin Cuellar, Alexandra Calle, Marcos X. Sanchez-Plata, and **Alejandro Echeverry**§. 2021. Evaluation of temperature, time, and incubation methods for the enumeration of naturally occurring indicator microorganism in ground pork and ground beef. (*To be submitted to Meat and Muscle Biology*).
2. Moreira, Remio T*, Ayodeji E. Adeniyi, Davin Cuellar, Marcos X. Sanchez-Plata, Dale Woerner, and **Alejandro Echeverry**§. 2021. Efficacy of UV, Photohydroionization® and Beefxide® on Reducing *Escherichia coli* O157:H7 on Ground Beef Production. *To be submitted to Meat and Muscle Biology*.
3. Adeniyi Ayodeji*, Remio Moreira, Darvin Cuellar, Alexandra Calle, Marcos X. Plata Sanchez, and **Alejandro Echeverry**§. 2021. *Salmonella* and shiga toxin-producing *Escherichia coli* isolated from pet food and antimicrobial susceptibility patterns. *To be submitted to Food Protection Trends*.
4. English, A., Garnica, H.* , and **A. Echeverry**§. 2021. Antimicrobial resistance patterns of *Enterococcus* and *Staphylococcus* isolated from grocery store carts. *To be submitted to Food Protection Trends*.
5. Kathleen L. Fermin, Angela M. Laury, Don Stull, Leslie D. Thompson, Andreas Neuber, Mindy M. Brashears, and **Alejandro Echeverry**§. 2021. Reduction of Methicillin-Resistant *Staphylococcus aureus* (MRSA) in Fabric using a Targeted Directional Microwave Technology during heated and non-heated tumbling. *To be Submitted to Applied and Environmental Microbiology*.
6. Karla Rodriguez*, Andrea English, Markus F. Miller, **Alejandro Echeverry**, Marcos Sanchez-Plata§. 2021. Lethality and post-package pasteurization treatments for reducing *Salmonella* spp., Shiga toxin-producing *Escherichia coli* and *Listeria monocytogenes* in reduced-moisture ready-to-eat meat and poultry products. *In preparation, to be submitted to Foods*.

Proceedings: total of **65**

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Volunteered:

1. L. Flowers, M. Costello, P. M. Gray, D. Kang, M. M. Brashears, **A. Echeverry**, J. E. Mann, W. R. Henning, E. W. Mills, and C. N. Cutter. 2003. A Microbiological Profile Of Red Meat Carcasses Processed In Very Small Establishments In Three Geographical Regions Of The United States - 2003. Proceedings of the 56th Reciprocal Meat Conference.
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commercial sterilization. Poultry Science Association. 85:100 (Suppl 1.) (Abstr).
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4. William E. Chaney, **Alejandro Echeverry**, Enusha Karunasena, Chance J. Brooks, Michael San Francisco, and Mindy M. Brashears. 2009. Influence of modified Atmosphere Packaging (MAP) on *Escherichia coli* O157:H7 growth, survival, shiga-toxin production and biofilm production. *Journal of Food Protection*. Supplement A, Vol 72:86-87. Proceedings of the annual IAFP meeting, Grapevine, TX.
5. William E Chaney, Mark Miller, **Alejandro Echeverry**, Henry Ruiz and Mindy M. Brashears. 2010. Efficacy of brine spray chilling on the reduction of *Escherichia coli* O157:H7 and *Salmonella* on hot beef carcass surfaces. *Journal of Food Protection*. Supplement A, Vol. 73:178. Proceedings of the annual IAFP meeting, Anaheim, CA.
6. Praveena Sunkara, Guy H. Loneragan, Markus Miller, **Alejandro Echeverry**, and Mindy M. Brashears. 2010. Antibiotic resistance profiles of cattle associated *Salmonella* serotypes in Mexico. *Journal of Food Protection*. Supplement A, Vol. 73:59. Proceedings of the annual IAFP meeting, Anaheim, CA.
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9. Ansen Pond, Mark Miller, **Alejandro Echeverry**, Guy Loneragan, Maria Rubio, Adrian Chavez, Nelson Huerta, John Rupnow, Todd Brashears and Mindy Brashears. 2010. *Salmonella* and pathogenic *Escherichia coli* prevalence and generic *Escherichia coli* quantitative baselines in raw pork and beef at retail outlets in Mexico. *Journal of Food Protection*. Supplement A, Vol. 73:175-176. Proceedings of the annual IAFP meeting, Anaheim, CA.
10. Claudia Narvaez Bravo, Markus F Miller, **Alejandro Echeverry**, Tanya Jackson, Kevin Pond, and Mindy Brashears. 2010. *Salmonella* and *Escherichia coli* O157:H7 prevalence in cattle and on carcasses in a vertically integrated feedlot and harvest plant in Mexico. *Journal of Food Protection*. Supplement A, Vol. 73:177. Proceedings of the annual IAFP meeting, Anaheim, CA.

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15. Jennifer Martin, Mindy Brashears, Cassandra Chancey, **Alejandro Echeverry**, Sam Jackson, Leslie D. Thompson and Chance J. Brooks. 2011. Reduction of *Escherichia coli* O157:H7 in Needle-tenderized Beef Strip Steaks Using Lactic Acid and Cooking. *Journal of Food Protection*. Supplement A, Vol. 74:78-79. Proceedings of the annual IAFP meeting, Milwaukee, Wisconsin.
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18. Yen Te Liao, Ann Ulmer, **Alejandro Echeverry**, Rachel Lacey, Margaret Binkley, Dan Henroid and Mindy Brashears. 2011. Evaluation of Hygienic Practices and Efficacy of an Educational Hand-washing Intervention among Restaurants in Lubbock and San

- Francisco. *Journal of Food Protection*. Supplement A, Vol. 74:192. Proceedings of the annual IAFP meeting, Milwaukee, Wisconsin.
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 20. T. R. Brown, M. M. Brashears, C. Chancey, J. N. Martin, **A. Echeverry**, S. P. Jackson, L. D. Thompson, J. C. Brooks. 2011. Influence of lactic acid spray applied in a cold environment and vacuum packaged storage on the presence of *Escherichia coli* O157:H7 on beef strip loins. Proceedings from the 64th Reciprocal Meat Conference of the American Meat Science Association, 19–22 June 2011, Kansas State University, Manhattan Kansas. *Meat Science* (89)366.
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 24. Hartzog-Hawkins, **A. Echeverry**, M.T. Brashears, L. D. Thompson, M.F. Miller, J. Zamora, L. G. Garcia, C. Narvaez, L. Lemons, M. Shaw, A. Pond, H. Ruiz, M. Maradiaga, A. Calle and M.M. Brashears. 2012. Organizational Climate and Food Safety Training Change Employee Behaviors and Pathogen Loads in Non-inspected Beef Packing Plants in Mexico. *Journal of Food Protection*. Supplement A, Vol. 75:144. Proceedings of the annual IAFP meeting, Providence, RI.
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27. Ward, S., M.F. Miller, **A. Echeverry**, L. Garcia, G.H. Loneragan, A. Pond, T. Jackson, L. Thompson, S. Jackson, J.C. Brooks, R. G. Ramirez Porras, G. Cervera, and M.M. Brashears. 2012. Reduction of *Salmonella* Using Lactic Acid and Potassium Lactate on Non-federally Inspected Whole Muscle Beef Steaks Purchased in Meat Markets of Mexico. *Journal of Food Protection*. Supplement A, Vol. 75:205. Proceedings of the annual IAFP meeting, Providence, RI.
28. Ruiz, H., M. F. Miller, L. D. Thompson, L. G. Garcia, C. Brooks, G. H. Loneragan, **A. Echeverry**, M. M. Brashears, and G. O. Cervera. 2014. *Salmonella* presence in lymph nodes and tonsils of swine harvested in Cancun and Merida, Mexico. *Meat Science*. Vol 98 (1):488.
29. Ruiz, H., M.F. Miller, S. Gragg, G.H. Loneragan, L.G. Garcia, G. O. Cervera, **A. Echeverry**, and M.M. Brashears . 2014. *Salmonella* prevalence in beef lymph nodes and feces from cattle harvested at five Mexican abattoirs. *Meat Science*. Vol 98 (1):489-490.
30. B.D. Chaves, M. Maradiaga, M.A. Calle, L. Thompson, S.P. Jackson, T. Jackson, M.F. Miller, L.G. Garcia, **A. Echeverry**, H. Ruiz, M.M. Brashears. 2014. Evaluation of process control to prevent contamination of beef with non-O157 Shiga toxin-producing *Escherichia coli* (STEC) in U.S. export abattoirs in Honduras and Nicaragua. *Meat Science*. Vol 98 (1):489.
31. Y.T. Liao, G.H. Loneragan, J.C. Brooks, **A. Echeverry**, M.F. Miller, M.M. Brashears. 2014. Establishment of non-O157 Shiga Toxin-Producing *Escherichia coli* (STEC) baseline of retail ground beef in the United States. *Meat Science*. Vol 98 (1):484.
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65. Diego Casas, David Vargas Arroyo, Emile Radazzo, Dan Lynn, Alejandro Echeverry, Mindy Brashears, Marcos X. Sanchez-Plata, Mark Miller. 2021. In-Plant Validation of Novel On-Site Ozone Generation Technology (Bio-Safe) Compared to Lactic Acid on Beef Carcasses and Trim Using Natural Microbiota and *Salmonella* and *E. coli* O157 Surrogate Enumeration. *Journal of Food Protection*, Volume 84, Supplement A. July. Page 41. Proceedings of the annual IAFP meeting, Phoenix, AZ.

Invited:

None to report

Non-refereed

Volunteered: None to report

Invited: None to report

Abstracts: total of 141

Volunteered:

1. **A. Echeverry**, G. H. Loneragan, M. M. Brashears, B. A. Wagner. 2004. *Potential Non-Uniform Distribution of E. coli O157:H7 in Feces and Underestimation of Prevalence*. Presented at the 91st Annual Meeting of the International Association for Food Protection (IAFP). Phoenix, AZ. August 8-11 2004. Poster 099 – Risk Assessment Session.
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3. **Echeverry, A.**, L. A. Branham, G. H. Loneragan, M. M. Brashears. 2006. *Detection of Escherichia coli O157 in Bovine Fecal Pats by a Multiple Sampling Strategy*. Presented at the 11th International Symposium on Veterinary Epidemiology and Economics

- (ISVEE). Cairns, Australia, August 6-11, 2006: 424. Poster 325 Theme 7-S5 Food Safety & Zoonotic Issues.
4. Mindy Brashears, Mark Miller, Chance Brooks, Deidrea Harris, Guy Loneragan, **Alejandro Echeverry**, Tanya E. Jackson, and John Michael Mehaffey. 2007. *Microbial Risk Factors Associated with Condensation In Ready-To-Eat Processing Facilities*. Presented at the 94th Annual Meeting of the International Association for Food Protection (IAFP). Lake Buena Vista, FL, July 8-11, 2007. Poster 32, Session 4: Beverages and water, antimicrobials, sanitation and non-microbial food safety.
 5. **Echeverry, A.**, D.G. Lakins, C.Z. Alvarado, M.M. Brashears, and J.C. Brooks. 2007. *Quality and Mold Growth Effects Following Microwave Commercial Sterilization on White Enriched Bread for Military Rations*. Presented at the 94th Annual Meeting of the International Association for Food Protection (IAFP). Lake Buena Vista, FL, July 8-11, 2007. Poster 73, Session 5: Food Defense, pathogens, and general microbial.
 6. **Echeverry, A.**, T.C. Lowrance, G.H. Loneragan, M.M. Brashears, M.S. Brown, D.J. Kunze, T.M. Platt, S. Ives, H.M. Scott, and B. Norby. 2007. *Ceftiofur Crystalline Free Acid Administration reduces Susceptibility of Generic E. coli in Cattle*. Presented at the 94th Annual Meeting of the International Association for Food Protection (IAFP). Lake Buena Vista, FL, July 8-11, 2007. Poster 31, Session 2: Meat and Poultry.
 7. **Alejandro Echeverry**, J. Chance Brooks, M. F. Miller, J. A. Collins, and Mindy M. Brashears. 2008. Validation of intervention strategies to control *Escherichia coli* O157:H7 and *Salmonella* Typhimurium DT 104 in injected beef at the retail level. Presented at the 95th Annual Meeting of the International Association for Food Protection (IAFP), August 2 -6, Columbus, Ohio. Poster P2-46: Meat and Poultry, Microbial Food Spoilage, Beverage and Dairy poster Session.
 8. **Alejandro Echeverry**, J. Chance Brooks, M.F. Miller, J.A. Collins and Mindy M. Brashears. 2008. Validation of intervention strategies to control *Escherichia coli* O157:H7 and *Salmonella* Typhimurium DT 104 in beef subjected to blade tenderization at the purveyor. Presented at the 61st Reciprocal Meat Conference at the University of Florida. Gainesville, Florida, June 22-25, 2008.
 9. J. A. Collins, J. C. Brooks, M. M. Brashears, **A. Echeverry** and M. F. Miller. 2008. Sensory Properties of Needle Tenderized and Injected Beef After Treatment with Interventions Strategies to Control Food-Borne Pathogens. Presented at the 61st Reciprocal Meat Conference at the University of Florida. Gainesville, Florida, June 22-25, 2008.
 10. **Alejandro Echeverry**, J. Chance Brooks, M.F. Miller, J.A. Collins, Mindy M. Brashears, A. Laury y C. Narvaez. 2008. Intervenciones para controlar *Escherichia coli* O157:H7 y *Salmonella* Typhimurium DT104 en carne inyectada con salmuera en locales de venta al menudeo. Presented at the 1st Latin American Symposium on Food Safety. Campinas, Brazil, May 26-28, 2008.

11. **Alejandro Echeverry**, J. Chance Brooks, M.F. Miller, J.A. Collins, Mindy M. Brashears, A. Laury y C. Narvaez. 2008. Intervenciones para control de *Escherichia coli* O157:H7 y *Salmonella* Typhimurium DT 104 en carne sometida a ablandamiento mecánico. Presented at the 1st Latin American Symposium on Food Safety. Campinas, Brazil, May 26-28, 2008
12. Laury, A.M., M.V. Alvarado, J.C. Brooks, **A. Echeverry**, and M. M. Brashears. 2009. Inhibition of Growth of *Escherichia coli* O157:H7 and *Salmonella* in ground beef using modified atmosphere packaging systems. Presented at the 96th Annual Meeting of the International Association for Food Protection (IAFP), July 12 - 15, Grapevine, Texas
13. Chaney, William E., Enusha Karunasena, **Alejandro Echeverry** and Mindy M. Brashears. 2009. Influence of Modified Atmosphere Packaging (MAP) on *Escherichia coli* O157:H7 Growth and Virulence: Effects on Shiga Toxin and Biofilm Production. Presented at the 96th Annual Meeting of the International Association for Food Protection (IAFP), July 12 - 15, Grapevine, Texas.
14. Pond, Ansen, **Alejandro Echeverry**, Markus F. Miller, J. C. Brooks and Mindy M. Brashears. 2009. Validation of dosage and shelf-life properties of beef products treated with bovine meat cultures. Presented at the 62nd Reciprocal Meat Conference (RMC), June 21-24, Rogers, Arkansas.
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16. **Alejandro Echeverry**, Ansen Pond, Claudia Narváez-Bravo, Mark F. Miller, Tanya Jackson, Angela Laury, Kevin Pond, Guy H. Loneragan, Todd Brashears, Nelson Huerta-Leidenz y Mindy M. Brashears. 2010. Prevalence of *Salmonella* in Beef and Pork in Mexican Retail Markets: Its Relationship with Observations taken at Different Slaughter and supplier Plants and its Impact on Final Product Safety [*In Spanish: Prevalencia de Salmonella en Carne de Res y Cerdo en Mercados Minoristas Mexicanos: Su Relacion con Observaciones en Diferentes Plantas de Sacrificio Sopladoras e Impacto en la Inocuidad del Producto Final*]. Presented at the 10th National Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21st - 24th, Bogota, Colombia.
17. Claudia Narváez-Bravo, **Alejandro Echeverry**, Argenis Rodas-González, Mark Miller, Tanya Jackson, Kevin Pond, Angela Laury, Evan Chaney, Todd Brashears, Guy H. Loneragan, y Mindy M. Brashears. 2010. Seasonal prevalence of *Salmonella* and *E. coli* O157: H7 in beef cattle and its impact on different stages of Beef in a slaughterhouse in Mexico [*In Spanish: Prevalencia Estacional De Salmonella Y E. coli O157:H7 En Ganado De Engorde Y Su Impacto En Diferentes Etapas Del Procesamiento De Carne De Res En Una Planta De Faenado En México*]. Presented at the 10th National

Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21st - 24th, Bogota, Colombia.

18. Sunkara Praveena, **Alejandro Echeverry**, Guy H. Loneragan, Mark Miller, Ansen Pond, Enusha Karunasena y Mindy M. Brashears. 2010. Antibiotic Resistance Profiles in *Salmonella* serotypes isolated from samples of Beef and Pork obtained from Retail Establishments in Mexico [*In Spanish: Perfiles De Resistencia A Los Antibióticos En Serotipos De Salmonella Aislados De Muestras De Carne De Res Y De Cerdo En Establecimientos De Venta Al Público En México*]. Presented at the 10th National Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21st - 24th, Bogota, Colombia.
19. **Echeverry, A.**, T. Jackson, A. Laury, S. Gragg, A. Brown, W. E. Chaney, L. Yen-Te, M. F. Miller, and M. M. Brashears. 2010. Validation of Lactic Acid as an Antimicrobial Intervention in a Beef Processing Plant. Presented at the 63rd Reciprocal Meat Conference (RMC), June 19 -23, Lubbock, Texas.
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21. Pond, A. R., C. Gardner, W. E. Chaney, **A. Echeverry**, A. Laury, and M. M. Brashears. 2010. Validation of beefside on the reduction of *Salmonella* and *Escherichia coli* O157:H7 on a beef carcasses calf model. Presented at the 63rd Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19 -23, Lubbock, Texas.
22. Sunkara, P., G. H. Loneragan, M. F. Miller, **A. Echeverry**, E. Karunasena, and M. M. Brashears. 2010. Comparison of antibiotic resistance profiles of cattle associated *Salmonella* serotypes in United States and Mexico. Presented at the 63rd Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19 - 23, Lubbock, Texas.
23. Praveena Sunkara, Guy Loneragan, Mark Miller, **Alejandro Echeverry**, E. Karunasena, and Mindy Brashears. 2010. Antibiotic Resistance Profiles of Cattle Associated *Salmonella* Serotypes in United States and Mexico. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
24. Alison L. Brown, Enusha Karunasena, J. Chance Brooks, **Alejandro Echeverry**, and Mindy M. Brashears. 2010. Inhibition of *Escherichia coli* O157:H7 and *Clostridium sporogenes* in spinach packaged in modified atmospheres after treatment with chlorine

- and lactic acid. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
25. Claudia Narvaez-Bravo, Mark Miller, **Alejandro Echeverry**, Kevin Pond, and Mindy Brashears. 2010. *Salmonella* and *E. coli* O157:H7 prevalence in cattle and on carcasses in a vertically integrated feedlot and harvest plant in Mexico. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
 26. Ansen Pond, Mark Miller, **Alejandro Echeverry**, Guy Loneragan, Maria Salud Rubio, Adrian Chavez, and Mindy Brashears. 2010. *Salmonella* and Pathogenic *E. coli* Prevalence and Generic *E. coli* Quantitative Baselines in Raw Pork and Beef at Retail Outlets in Mexico. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
 27. Laury, A, **A. Echeverry**, M. Alvarado, S. Gragg, A. Brown, C. Narvaez, P. Sunkara, and M. M. Brashears. 2010. Electrostatically sprayed lactic acid bacteria as a pre-harvest intervention strategy for reduction of *Escherichia coli* O157:H7 on spinach plant. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
 28. W. Evan Chaney, **Alejandro Echeverry**, Henry Ruiz, Mark F. Miller, Mindy M. Brashears. 2010. Efficacy of Brine Chilling on the Reduction of *Escherichia coli* O157:H7 and *Salmonella* on Hot Beef Carcass Surfaces. Presented at the 97th Annual Meeting of the International Association for Food Protection (IAFP), August 1- 4, Anaheim, California.
 29. Ansen R. Pond, Mark F. Miller, Tanya Jackson, **Alejandro Echeverry**, Emile Randazzo and Mindy Brashears. 2011. Validation of Lactic Acid Interventions on the Reduction of *Escherichia coli* Biotype I, Coliforms and Total Aerobic Bacteria on Chilled Beef Products Processed at a Commercial US Slaughter Facility. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P1-36.
 30. Claudia Narvaez Bravo, Mark F. Miller, Tanya Jackson, Sam Jackson, Argenis Rodas Gonzalez, Kevin Pond, **Alejandro Echeverry** and Mindy Brashears. 2011. Determination of Risk Factors Associated with *Salmonella* and *Escherichia coli* O157 Prevalence on Carcasses in a Mexican Slaughter Plant. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P1-46.
 31. Claudia Narvaez Bravo, Mark F. Miller, Sam Jackson, Tanya Jackson, Argenis Rodas Gonzalez, **Alejandro Echeverry**, Kevin Pond and Mindy Brashears. 2011. Comparison of *Salmonella* and *Escherichia coli* O157 Prevalence on Beef Carcasses Harvested in Mexico under Two Different Production Procedures under TIF Regulations. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P1-47.

32. Jessie L. Vipham, Mark F. Miller, Guy Loneragan, **Alejandro Echeverry**, Chance J. Brooks, W. Evan Chaney, and Mindy Brashears. 2011. *Salmonella*, *Campylobacter* and Putative Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) in Ground Beef and Whole Muscle Beef Cuts in the United States. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P1-48.
33. Jennifer Martin, Mindy Brashears, Cassandra Chancey, **Alejandro Echeverry**, Sam Jackson, Leslie D. Thompson, and Chance J. Brooks. 2011. Reduction of *Escherichia coli* O157:H7 in Needle-tenderized Beef Strip Steaks Using Lactic Acid and Cooking. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P1-59.
34. Ansen R. Pond, **Alejandro Echeverry**, Tanya Jackson, Mindy Brashears, Mark F. Miller, Guy Loneragan, Todd M. Brashears, Rosa R. Porras and Gilberto O. Cervera. 2011. *Salmonella* and *Escherichia coli* O157:H7 Prevalence on Beef Carcasses in a Non-TIF Harvest Plant in the Mexican Yucatan. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P2-113.
35. Jennifer Spraberry, Todd M. Brashears, **Alejandro Echeverry**, Mark Russell and Mindy Brashears. 2011. An Exploratory Comparison of Knowledge Levels of Diverse Populations within a Food Safety Workshop. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P3-83
36. Yen Te Liao, Ann Ulmer, **Alejandro Echeverry**, Rachel Lacey, Margaret Binkley, Dan Henroid and Mindy Brashears. 2011. Evaluation of Hygienic Practices and Efficacy of an Educational Hand-washing Intervention among Restaurants in Lubbock and San Francisco. Presented at the 100th annual meeting of the International Association for Food Protection, Milwaukee, WI. July 31 – August 3. Poster P3-91
37. Jennifer N. Martin, Mindy M. Brashears, Cassandra Chancey, **Alejandro Echeverry**, Samuel P. Jackson, Leslie D. Thompson and J Chance Brooks. 2011. Reduction of *Escherichia coli* O157:H7 in mechanically tenderized beef strip steaks using lactic acid and cooking. Presented at the Annual Beef Industry Food Safety Council (BIFSCO) Summit, Dallas, Texas, March 2-4.
38. J. L. Vipham, M. F. Miller, G. H. Loneragan, **A. Echeverry**, J. C. Brooks, W. E. Chaney, and M. M. Brashears. 2011. *Salmonella*, *Campylobacter*, and putative non-O157 shiga toxin-producing *Escherichia coli* (stec) prevalence in ground beef and whole muscle beef cuts at retail in the United States. Presented at the 64th Reciprocal Meat Conference, Manhattan, Kansas. Kansas State University, June 18-22. Poster 102.
39. S. N. Ward, **A. Echeverry**, M. M. Brashears, A. Pond, L. Garcia, T. Jackson, L. G. Thompson, K. Pond, G. Loneragan, J. C. Brooks, and M. F. Miller. 2011. Effects of lactic acid on *Salmonella* levels on non-federally inspected whole muscle beef steaks

- purchased in meat markets of Mexico. Presented at the 64th Reciprocal Meat Conference, Manhattan, Kansas. Kansas State University, June 18-22. Poster 104.
40. T. R. Brown, M. M. Brashears, C. Chancey, J. N. Martin, **A. Echeverry**, S. P. Jackson, L. D. Thompson, and J. C. Brooks. 2011. Influence of lactic acid spray applied in a cold environment and vacuum packaged storage on the presence of *Escherichia coli* O157:H7 on beef strip loins. Presented at the 64th Reciprocal Meat Conference, Manhattan, Kansas. Kansas State University, June 18-22. Poster 105.
 41. A. Pond, M. F. Miller, **A. Echeverry**, G. Loneragan, and M. M. Brashears. 2011. *Salmonella* and *E. coli* O157:H7 prevalence on beef carcasses in a non-TIF harvest plant in Cuautla, Mexico. Presented at the 64th Reciprocal Meat Conference, Manhattan, Kansas. Kansas State University, June 18-22. Poster 107.
 42. Martha Maradiaga, M.F. Miller, Leslie Thompson, A. Calle, A. Pond, S. Ward, **Alejandro Echeverry**, Lyda Garcia, and Mindy M. Brashears. 2012. Baseline study of *Salmonella* prevalence in Retail Beef and Produce in Honduras and Mexico. Poster 035-15, Food Microbiology Division: Food Microbiology Posters. Presented at the Institute of Food Technologists (IFT) 2012 Annual Meeting & Food Expo, Hilton Hotel, Las Vegas, Nevada, June 26-28.
 43. Ortega; G., A. Calle, **A. Echeverry**, and M.M. Brashears. 2012. Detection of *Salmonella* and *Escherichia coli* O157:H7 (*stx* and *eae* genes) at different concentrations of viable and nonviable cells through the BAX® System from Dupont Qualicon. Presented at the Institute of Food Technologists (IFT) 2012 Annual Meeting & Food Expo, Hilton Hotel, Las Vegas, Nevada, June 26-28.
 44. C. Narvaez-Bravo, M F Miller, A Rodas-González, A Calle, T Brashears, **A Echeverry**, M Aslam, M M Brashears. 2012. Virulence characterization of *Escherichia coli* O157:H7 isolated from fecal samples and beef carcasses in Mexico. Poster L13. Presented at the 58th International Congress of Meat Science and Technology (ICOMST). August 13-17, Montreal, Canada.
 45. Sara E. Gragg, Guy. H. Loneragan, Kendra K. Nightingale, Jacob R. Elder, Henry Ruiz, Mark F. Miller, **Alejandro Echeverry** and Mindy M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. Presented at the 2012 Beef Industry Safety (BIFSCO) Summit. March 7-9, Tampa, Florida.
 46. W. Evan Chaney, Yen-Te Liao, Max J. Wolf, Amy R. Parks, Jennifer Martin, Andrea J. Garmyn, **Alejandro Echeverry**, Leslie D. Thompson, Mark F. Miller, J. Chance Brooks, Guy H. Loneragan, Mindy M. Brashears. 2012. *Escherichia coli* O157:H7 and non-O157 STEC Survival and Reduction on Intact Beef Subprimals and Non-intact Beef Steaks by Intervention and Cooking Processes. Presented at the 2012 Beef Industry Safety (BIFSCO) Summit. March 7-9, Tampa, Florida.
 47. S. Gragg, G. Loneragan, K. Nightingale, J. Elder, H. Ruiz, M. Miller, **A. Echeverry**, and M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from

- Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. Poster 75. Presented at the 65th Reciprocal Meat Conference, Fargo, North Dakota. North Dakota State University, June 16-20.
48. Liao, Y.T., J.C. Brooks, J.N. Martin, **A. Echeverry**, G.H. Loneragan, and M.M. Brashears. 2012. P1-92. Spray Intervention Treatments and Cooking to reduce *Escherichia coli* O157:H7 and Non-O157 STECs on the Surface of Beef Subprimals, and within Needle-Tenderized Steaks. Presented at the 101st annual meeting of the International Association for Food Protection, Providence, Rhode Island. July 21 – July 25.
 49. Hartzog-Hawkins, **A. Echeverry**, M.T. Brashears, L. D. Thompson, M.F. Miller, J. Zamora, L. G. Garcia, C. Narvaez, L. Lemons, M. Shaw, A. Pond, H. Ruiz, M. Maradiaga, A. Calle and M.M. Brashears. 2012. P1-144. Organizational Climate and Food Safety Training Change Employee Behaviors and Pathogen Loads in Non-inspected Beef Packing Plants in Mexico. Presented at the 101st annual meeting of the International Association for Food Protection, Providence, Rhode Island. July 21 – July 25.
 50. Lemons, L., M.T. Brashears, A. Hartzog, **A. Echeverry**, L. Thompson, M.F. Miller, L. Garcia, and M.M. Brashears. 2012. P1-146. A Comparison of Food Safety Climate at Municipal and Private Beef Slaughter Plants in Mexico. Presented at the 101st annual meeting of the International Association for Food Protection, Providence, Rhode Island. July 21 – July 25.
 51. Gragg, S., K. Nightingale, J. Elder, H. Ruiz, G.H. Loneragan, M.F. Miller, **A. Echeverry**, and M.M. Brashears. 2012. P2-15. Characterization of *Salmonella* Isolated from the Lymph Nodes and Feces of Cattle Presented for Harvest at a Slaughter Facility in Mexico. Presented at the 101st annual meeting of the International Association for Food Protection, Providence, Rhode Island. July 21 – July 25.
 52. Ward, S., M.F. Miller, **A. Echeverry**, L. Garcia, G.H. Loneragan, A. Pond, T. Jackson, L. Thompson, S. Jackson, J.C. Brooks, R. G. Ramirez Porras, G. Cervera, and M.M. Brashears. 2012. P3-109. Reduction of *Salmonella* Using Lactic Acid and Potassium Lactate on Non-federally Inspected Whole Muscle Beef Steaks Purchased in Meat Markets of Mexico. Presented at the 101st annual meeting of the International Association for Food Protection, Providence, Rhode Island. July 21 – July 25.
 53. Porter, H., Brashears, T., Brashears, M., Irlbeck, E., Newsome, S., Winterholler-Trojan, S., **Echeverry, A.**, McKenney, C. & Loneragan, S.. 2013. Determining the problems, impacts, and potential solutions for the agricultural industry of Belize: Needs assessment. Presented at the 29th Annual conference for the Association for International Agricultural and Extension Education (AIAEE), Fort Worth, TX.
 54. Ortega, Graysen; Ortega, Katelyn; Calle, Alexandra; **Echeverry, Alejandro**; Brashears, Mindy. 2013 Prevalence of *E. coli* non-O157:H7 STEC in beef in Mexico. Presented at

- the Texas Tech University Undergraduate Research Competition. April 22-25, 2013. Lubbock, Texas. Poster 77.
55. Liao, Y. T., G. H. Loneragan, J. C. Brooks, **A. Echeverry**, M. F. Miller, and M. M. Brashears. 2013. Establishment of non-O157 shiga toxin-producing *Escherichia Coli* (STEC) baseline of retail ground beef in the United States. In: Abstracts from the 2013 American Meat Science Association Reciprocal Meat Conference. June 23-26, 2013. Auburn University, Auburn, AL.
 56. Ruiz, H., M. F. Miller, L. D. Thompson, L. G. Garcia, C. Brooks, G. H. Loneragan, **A. Echeverry**, M. M. Brashears, and G. O. Cervera. 2013. *Salmonella* presence in lymph nodes and tonsils of swine harvested in Cancun and Merida, Mexico. In: Abstracts from the 2013 American Meat Science Association Reciprocal Meat Conference. June 23-26, 2013. Auburn University, Auburn, AL.
 57. Ruiz, H., M.F. Miller, S. Gragg, G.H. Loneragan, L.G. Garcia, G. O. Cervera, **A. Echeverry**, and M.M. Brashears. 2013. *Salmonella* prevalence in beef lymph nodes and feces from cattle harvested at five Mexican abattoirs. In: Abstracts from the 2013 American Meat Science Association Reciprocal Meat Conference. June 23-26, 2013. Auburn University, Auburn, AL
 58. Chaves, B.D., M. Maradiaga, M.A. Calle, L. Thompson, S.P. Jackson, T. Jackson, M.F. Miller, L.G. Garcia, **A. Echeverry**, H. Ruiz, and M.M. Brashears. 2013. Evaluation of process control to prevent contamination of beef with non-0157 shiga toxin-producing *Escherichia Coli* (STEC) in U.S. export abattoirs in Honduras and Nicaragua. In: Abstracts from the 2013 American Meat Science Association Reciprocal Meat Conference. June 23-26, 2013. Auburn University, Auburn, AL.
 59. Martha Maradiaga, Markus Miller, **Alejandro Echeverry**, Lyda Garcia, Sara Gragg, Henry Ruiz, Alexandra Calle, Mindy Brashear. 2013. Prevalence of *Salmonella* on Beef Hides and Carcasses at an Abattoir in Merida, Mexico. Poster P1-45. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
 60. Byron Chaves, Lyda Garcia, **Alejandro Echeverry**, Markus Miller, Mindy Brashears. 2013. Evaluation of Process Control to Prevent Contamination of Beef with Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) in U.S. Export Abattoirs in Costa Rica. Poster P1-47. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
 61. Graysen Ortega, Mark Miller, Alexandra Calle, Katelyn Ortega, **Alejandro Echeverry**, Mindy Brashears. 2013. Prevalence of *Escherichia coli* Non-O157:H7 STEC in Beef in Mexico. Poster P1-53. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
 62. Nanditha Jasti, W. Evan Chaney, **Alejandro Echeverry**, Guy Loneragan, Kendra Nightingale, Mindy Brashears. 2013. Efficacy of Lactic Acid, Hot Water, and Acidified Sodium Chlorite for the Reduction of Non-O157 ShigaToxin-producing

- Escherichia coli* (STEC) Utilizing a Hot Carcass Model and *Escherichia coli* O157:H7 as an Indicator. Poster P2-68. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
63. Nanditha Jasti, W. Evan Chaney, **Alejandro Echeverry**, Guy Loneragan, Kendra Nightingale, Mindy Brashears. 2013. Efficacy of Lactic Acid, Hot Water, and Acidified Sodium Chlorite for the Reduction of Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) Utilizing Chilled Beef Subprimals and *Escherichia coli* O157:H7 as an Indicator. Poster P2-69. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
64. Martha Maradiaga, Markus Miller, Leslie Thompson, **Alejandro Echeverry**, Lyda Garcia, Mindy Brashears, Sara Gragg, Alexandra Calle, Ansen Pond, Shanna Ward. 2013. Baseline of *Salmonella* Prevalence in Retail Beef and Produce from Honduras and Mexico. Poster P3-142. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28.
65. Henry Ruiz, Mark F. Miller, Leslie D. Thompson, J. Chance Brooks, Guy H. Loneragan, **Alejandro Echeverry**, Gilberto O. Cervera, and Mindy M. Brashears. 2013. Prevalence of *Salmonella* in Lymph Nodes of Swine Harvested in Mexico. Presented at the 2013 Beef Industry Safety Summit (BIFSCO). March 13-15, Dallas, Texas.
66. Brashears, M.T., S. Morales, S. Trojan, S., **A. Echeverry**, and M.M. Brashears. 2013. An Evaluation of the Needs of Stakeholders within the Bahamian Food Production – Consumption Continuum. American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.
67. Pond, N., Guillen, **A. Echeverry**, K. Knightingale, J. Chance Brooks, G. H. Loneragan, and M. M. Brashears. 2014. Environmental Mitigation of *Escherichia coli* O157:H7, Non-O157 Shiga-Toxigenic *E. coli* (STEC) with *Lactobacillus acidophilus* NP51 in Fecal and Soil Samples. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas.
68. S. Pokharel, J. C. Brooks, J. N. Martin, **A. Echeverry**, Amy Parks, B. Corliss, M. M. Brashears. 2014. The Risk and Thermal Susceptibility of Non O157 and O157:H7 Shiga toxin Producing *Escherichia coli* in Non - Intact Beef Products Intended for Food Service or Retail. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas.
69. Katelyn Ortega, Jessie Vipham, Lacey Guillen, **Alejandro Echeverry**, Marie Bugarel, and Mindy M. Brashears. 2014. Prevalence of *Campylobacter* in Retail Ground Beef During Spring in Lubbock, Texas. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas.
70. Siroj Pokharel, J Chance Brooks, Jennifer N. Martin, **Alejandro Echeverry**, Amy Parks, Blaine Corliss, and Mindy M. Brashears. 2014. Internalization of Shiga-Toxin Producing *Escherichia coli* in beef products as influenced by vacuum marination.

- Presented at the Bob Albin graduate and undergraduate student poster competition, March 28th. Department of Animal and Food Sciences, Texas Tech University.
71. Castelli, E. M., D. Campos, Q. Zhang, **A. Echeverry**, and M. M Brashears. 2014. Inhibition of *Listeria monocytogenes* on alfalfa sprouts using Lactiguard[®] cultures. Presented at the Bob Albin graduate and undergraduate student poster competition, March 28th. Department of Animal and Food Sciences, Texas Tech University.
 72. Blaine Corliss, J Chance Brooks, Jennifer N. Martin, **Alejandro Echeverry**, Amy Parks, Siroj Pokharel, and Mindy M. Brashears. 2014. Internalization and post cooking survival of non-O157 and O157:H7 Shiga-toxin producing *Escherichia coli* in blade tenderized beef steaks. Presented at the Bob Albin graduate and undergraduate student poster competition, March 28th. Department of Animal and Food Sciences, Texas Tech University.
 73. Chaves, B., **A. Echeverry**, L. G. Garcia, M.F. Miller, and M. M. Brashears. 2014. Seasonal prevalence and serogroup distribution of non-O157 Shiga Toxigenic *E. coli* (STEC) in U.S. export abattoirs in Costa Rica. Presented at the Bob Albin graduate and undergraduate student poster competition, March 28th. Department of Animal and Food Sciences, Texas Tech University.
 74. Trojan, S., Brashears, T. **Echeverry**, **A.** and Brashears, M.M. 2014. Identification of barriers of Bahamian agriculture production: an assessment of stakeholder needs. To be presented at the 2014 Joint Annual Meeting of the American Society of Animal Science , the American Dairy Science Association, and the Canadian Society of Animal Science. Kansas City, MO, July 20-24.
 75. Morales, Sarahi, Sara Trojan, **Alejandro Echeverry**, Mindy M. Brashears, and M. Todd Brashears. 2014. An Evaluation of the Needs of Stakeholders within the Bahamian Food Production - Consumption Continuum. To be presented at the 2014 Association for International Agricultural and Extension Education (AIAEE) meeting, Miami, Florida. April 27-May 1.
 76. Blaine Corliss, J Chance Brooks, Jennifer N. Martin, **Alejandro Echeverry**, Amy Parks, Siroj Pokharel, and Mindy M. Brashears. 2014. The Influence of Meat Properties on The Attachment and Internalization of Shiga-Toxin Producing *Escherichia Coli* (STEC) in Blade Tenderized Beef Products. Presented at the American Meat Science Association's 2014 Reciprocal Meat Conference. University of Wisconsin-Madison, June 15-18.
 77. S. Pokharel, J. C. Brooks, J. N. Martin, **A. Echeverry**, A. Parks, B. Corliss, and M. M. Brashears. 2014. Shiga-Toxin Producing *Escherichia coli* (STEC) Serogroups Exhibit Varied Thermal Susceptibility in Marinated Beef Products. Presented at the American Meat Science Association's 2014 Reciprocal Meat Conference. University of Wisconsin-Madison, June 15-18.
 78. B. Corliss, C. Brooks, J. Martin, **A. Echeverry**, A. Parks, S. Pokharel, M. Brashears. 2014. The influence of meat properties on the attachment and internalization of Shiga-

toxin producing *Escherichia coli* (STEC) in blade tenderized beef products. Presented at the 67th American Meat Science Association Reciprocal Meat Conference (RMC). Madison, Wisconsin, June 15-18.

79. S. Pokharel, J.C. Brooks, J.N. Martin, **A. Echeverry**, A. Parks, B. Corliss, M.M. Brashears. 2014. Shiga-toxin producing *Escherichia coli* (STEC) serogroups exhibit varied thermal susceptibility in marinated beef products. Presented at the 67th American Meat Science Association Reciprocal Meat Conference (RMC). Madison, Wisconsin, June 15-18.
80. K.E. Hanlon, M.M. Brashears, J.L. Vipham, L.M. Guillen, T.G. O'Quinn, J.C. Brooks, M.T. Brashears, **A. Echeverry**, M.M. Miller. 2014. Establishment of *Salmonella* and *E. coli* O157 prevalence in show goats. Presented at the 67th American Meat Science Association Reciprocal Meat Conference (RMC). Madison, Wisconsin, June 15-18.
81. Amy Parks, **Alejandro Echeverry**, Kathleen Fermin, Markus Miller, Mindy Brashears. 2014. In-plant Validation of Lactic Acid Spray as an Antimicrobial Treatment for Carcasses, Subprimals, and Beef Trim. Poster P3-58. Presented at the 103rd Annual Meeting of the International Association for Food Protection (IAFP). Indianapolis, Indiana, August 3-6.
82. Blaine Corliss, Mindy Brashears, J. Chance Brooks, **Alejandro Echeverry**, Jennifer Martin, Amy Parks, Siroj Pokharel. 2014. Internalization and Post-cooking Survival of Non-O157 and O157:H7 Shiga Toxin-producing *Escherichia coli* in Blade Tenderized Beef Steaks. Poster P3-60. Presented at the 103rd Annual Meeting of the International Association for Food Protection (IAFP). Indianapolis, Indiana, August 3-6.
83. Katelyn Ortega, Jessie Vipham, Lacey Guillen, **Alejandro Echeverry**, Marie Bugarel, Mindy Brashears. 2014. Prevalence of *Campylobacter* in Retail Ground Beef and Poultry during Spring in Lubbock, Texas. Poster P3-76. Presented at the 103rd Annual Meeting of the International Association for Food Protection (IAFP). Indianapolis, Indiana, August 3-6.
84. Nathan Pond, Lacey Guillen, **Alejandro Echeverry**, J. Chance Brooks, Guy Loneragan, Mindy Brashears, Kendra Nightingale. 2014. Inhibition of *Salmonella* in Feces and Soil from the Feedlot Environment Treated with *Lactobacillus acidophilus* NP51. Poster P3-77. Presented at the 103rd Annual Meeting of the International Association for Food Protection (IAFP). Indianapolis, Indiana, August 3-6.
85. Lacey Guillen, Amy Parks, **Alejandro Echeverry**, W. Evan Chaney, Markus Miller, Mindy Brashears. 2014. In-plant Validation of Pet Food Processing for the Elimination of Pathogens. Poster P3-133. Presented at the 103rd Annual Meeting of the International Association for Food Protection (IAFP). Indianapolis, Indiana, August 3-6.
86. Marcos Sanchez, Alexandra Calle, Gabriela Arteaga, **Alejandro Echeverry**. 2015. Poster P2-156. Design of a Semi-quantitative Self-assessment Tool for Evaluation of Readiness Level With the Proposed Produce Standards of the Food Safety

- Modernization Act (FSMA). Presented at the 104th Annual Meeting of the International Association for Food Protection (IAFP), Portland, Oregon, July 25-28.
87. Keelyn Hanlon, Markus Miller, Lacey Guillen, Shanequa Sanders, Loree Branham, **Alejandro Echeverry**, Kari Spivey, Mindy Brashears. 2015. Poster P2-81. Prevalence of *Salmonella* and *Escherichia coli* O157 Found in Small ruminants within the United States. Presented at the 104th Annual Meeting of the International Association for Food Protection (IAFP), Portland, Oregon, July 25-28.
 88. Byron Chaves, **Alejandro Echeverry**, Mindy Brashears. 2015. Poster P3-215. Systematic Review of the Microbiological Safety Status of Foods at Retail in Costa Rica. Presented at the 104th Annual Meeting of the International Association for Food Protection (IAFP), Portland, Oregon, July 25-28.
 89. **Alejandro Echeverry**, Mark F. Miller, Leslie Thompson, Mindy M. Brashears. 2015. Development and implementation of a biosecurity framework plan for the shrimp industry of Honduras. Presented at the International Society for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
 90. Byron Chaves, **Alejandro Echeverry**, Mark Miller, Nelson Huerta-Leidenz, Maria Rubio, Rosa Ramirez, Gilberto Ordaz, Lyda Garcia, Ansen Pond, Todd Brashears, Mindy Brashears. 2015. P054 - Process control to prevent beef contamination with non-O157 Shiga toxigenic *Escherichia coli* (STEC) in abattoirs in Mexico and Central America. Presented at the International Society for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
 91. Byron Chaves, **Alejandro Echeverry**, Ansen Pond, Shanna Motl, Martha Maradiaga, Lyda Garcia, Mark Miller, Mindy Brashears. 2015. P056 - Presence of *Salmonella* in retail meats collected in Mexico. Presented at the International Society for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
 92. Amy R. Parks, Mark F. Miller, Lacey M. Guillen, Kathleen G. Fermin, **Alejandro Echeverry**, Mindy M. Brashears. 2015. P057 - Challenges associated with validation of heat treatment processes used in pet food and pet treats to eliminate *Salmonella*. Presented at the International Society for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
 93. Diana I. Ayala, Kendra Nightingale, Mark Miller, **Alejandro Echeverry**, Rosa Ramirez-Porras, Gilberto Ordaz, Mindy Brashears. 2015. P077 - *Salmonella* Serotype Discrimination of Beef carcasses, lymph nodes and fecal isolates through Pulsed-Field Electrophoresis. Presented at the International Society for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
 94. Keelyn E. Hanlon, Markus F. Miller, Lacey M. Guillen, **Alejandro Echeverry**, Kari S. Spivey, Mindy M. Brashears. 2015. P087 - Prevalence of *Salmonella* found in lymph nodes of sheep and goats within the United States. Presented at the International Society

- for Veterinary Epidemiology and Economics Society Meeting (ISVEE 14). November 3-7 Merida, Yucatan (Mexico).
95. Chaves, B. D., **A. Echeverry**, L. G. Garcia, M. F. Miller, and M. M. Brashears. 2015. Seasonal prevalence of non-O157 Shiga toxin-producing *Escherichia coli* (STEC) molecular markers on bovine hides and carcasses in Costa Rica. Presented at the 13th Beef Industry Food Safety Council (BIFSCo) annual meeting. Dallas, Texas, March 3-5, Hyatt Regency DFW.
 96. Ramirez-Hernandez, A., Inestroza, B. Sanchez-Plata, M.X., Parks, A., **Echeverry, A.**, and Brashears, M. 2015. Determination of D- and Z- values of *Salmonella* spp. In rendered products. Presented at the 68th RMC Reciprocal Meat Science Association Annual meeting. Lincoln, Nebraska, June 14-16.
 97. Brenda Inestroza, Alejandra Ramirez-Hernandez, Marcos X. Sanchez-Plata, Amy R. Parks, **Alejandro Echeverry**, and Mindy M. Brashears. 2016. Determination of D and Z- values of *Salmonella* in High-Fat Raw Materials for Rendering. Presented at the Beef Industry Safety Summit (BIFSCO) Annual meeting. March 1-3, Austin, TX.
 98. Martha Maradiaga, Kendra Nightingale, Henk den Bakker, **Alejandro Echeverry**, Mindy Brashears. 2016. P2-123 Phenotypic Characterization of Antimicrobial Resistance in *Salmonella* enterica Isolates Associated with Cattle at Harvest in Mexico. Presented at the International Association of Food Protection (IAFP) annual meeting. St Louis, MI, July 31 to August 1.
 99. Alejandra Ramirez-Hernandez, Brenda Inestroza, Marcos Sanchez-Plata, Amy Parks, **Alejandro Echeverry**, Mindy Brashears. 2016. P1-70 Thermal Inactivation D and z- Values of *Salmonella* in High-fat Raw Materials for Rendering. Presented at the International Association of Food Protection (IAFP) annual meeting. St Louis, MI, July 31 to August 1.
 100. Keelyn Hanlon, Markus Miller, Lacey Guillen, **Alejandro Echeverry**, Erin Dormedy, Brittney Cemo, Loree Branham, Shanequa Sanders, Mindy Brashears. 2016. P2-127 Presence of *Salmonella*, *Escherichia coli* O157 and *Campylobacter* in Small Ruminants. Presented at the International Association of Food Protection (IAFP) annual meeting. St Louis, MI, July 31 to August 1.
 101. M. Maradiaga, **A. Echeverry**, D. Orellana, M. Miller, M. Brashears. 2016. Antibiotic resistance of *Salmonella enterica* isolated from whole-muscle beef cuts and beef carcasses in Mexico. Presented at the American Meat Science Association (AMSA) 69th Reciprocal Meat Conference (RMC) annual meeting. San Angelo, TX, June 19 to 22.
 102. Brenda Inestroza, Maria Bueso, Jessie Vipham, Mark F. Miller, **Alejandro Echeverry**, Mindy M. Brashears. 2016. Presencia de *Salmonella* en ganado bovino durante el proceso de cosecha en un planta de sacrificio de honduras. Presented at the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC 2016). Medellin, Colombia, September 27-30th.

103. Brenda Inestroza, María Bueso, Mark F. Miller, **Alejandro Echeverry**, Mindy M. Brashears. 2016. Seguimiento inicial de la prevalencia de *Salmonella* en cueros y canales de ganado bovino en establecimientos de sacrificio en Mexico. Presented at the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC 2016). Medellín, Colombia, September 27-30th.
104. Andrea English, Mindy M. Brashears, **Alejandro Echeverry**. 2016. Preliminary assessment of antimicrobial resistance profiles in bacteria isolated from a shrimp production farm environment in Honduras. Presented at the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC 2016). Medellín, Colombia, September 27-30th.
105. Alejandra Ramirez-Hernandez, Diana F. Orellana Quijada, Martha Maradiaga, **Alejandro Echeverry** Mindy M. Brashears. 2016. Antimicrobial resistance patterns of *Salmonella* enterica isolates recovered from beef cattle presented to slaughter in México. Presented at the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC 2016). Medellín, Colombia, September 27-30th.
106. Darvin Abel Cuellar Milian, Mayra Marquez, Luis Fernando Osorio, **Alejandro Echeverry**. 2016. Verificación del método para la enumeración y confirmación de *Staphylococcus aureus* en petrifilm™, en el laboratorio de microbiología de alimentos de Zamorano. Presented at the XIII Latin American Congress of Food Microbiology and Food Hygiene (COLMIC 2016). Medellín, Colombia, September 27-30th.
107. Keelyn Hanlon, Markus Miller, Lacey Guillen, **Alejandro Echeverry**, Erin Dormedy, Brittney Cemo, Loree Branham, Shanequa Sanders, Mindy Brashears. 2016. Presence of *Salmonella*, *Escherichia coli* O157 and *Campylobacter* in Small Ruminant fecal and hide samples collected from the U.S., Bahamas and Mexico. Presented at Global Vision Awards – Office of International Affairs, Texas Tech University. – March 16th (First Place).
108. Chaves, B.D, **Echeverry, A.**, Miller, M.F., Brashears, M.M. 2016. Survey of *Salmonella* in retail meat markets in Cancun, Merida, and Veracruz, Mexico. Poster IX487. Presented at Latin Food 2016. IAFP 5th Latin American Symposium on Food Safety & 7th Food Science, Biotechnology and safety. November 9-11, Cancun, Quintana Roo, Mexico.
109. English, A.R., **A. Echeverry**, J. O. Sarturi, T. L. Opheim, K. K. Nightingale, M. F. Miller and M. M. Brashears. 2017. Antimicrobial resistance of generic *Escherichia coli* in cattle feces as impacted by dietary supplementation with *Lactobacillus Salivarius* L28. 63rd International Congress of Meat Science and Technology (ICoMST). Cork, Ireland.
110. Alnajrani, M., K. Hanlon, A. English, **A. Echeverry** and M.M. Brashears. 2017. Comparison of Swabbing, Rinsing and Grinding as Sampling Methods for the Recovery of Indicator Microorganisms on Beef Trimmings. P2-187. Presented at the International Association for Food Protection (IAFP) Annual Meeting. Tampa, Florida. July 9-12.

111. Casas, D., B. Inestroza, A. Ramirez, M.M. Brashears, M.F. Miller and **A. Echeverry** §. 2017. Antimicrobial Resistance of *Salmonella* Isolated from Retail Beef and Beef Cattle during Harvesting in Honduras. P1-184. Presented at the International Association for Food Protection (IAFP) Annual Meeting. Tampa, Florida. July 9-12
112. English, A.R., **A. Echeverry**, J.O. Sarturi, T.L. Opheim, K.K. Nightingale, M.F. Miller and M.M. Brashears§. 2017. Antimicrobial resistance patterns of generic *Escherichia coli* isolated from feedlot cattle feces after feeding direct-fed microbials in diets with and without tylosin during finishing. P1-207. Presented at the International Association for Food Protection (IAFP) Annual Meeting. Tampa, Florida. July 9-12
113. Cuellar, D., D. Stull, J. C. Brooks, M. X. Sanchez-Plata, M. Brashears, and **A. Echeverry**§. 2017. Evaluating the Potential Nonthermal Microwave Effects of Microwave Irradiation Treatments for Shiga Toxin-producing *Escherichia coli* Decontamination of Fresh and Frozen Beef Intended for Intact and Nonintact Beef Products. P2-29. Presented at the International Association for Food Protection (IAFP) Annual Meeting. Tampa, Florida. July 9-12.
114. English, A.R., **A. Echeverry**, J.O. Sarturi, T.L. Opheim, K.K. Nightingale, M.F. Miller and M.M. Brashears§. 2017. Tetracycline resistance patterns of *Enterococcus* and *Escherichia coli* recovered from feces of beef cattle entering a feedlot system. Presented at the IFT17 Institute of Food Technologists Meeting. Las Vegas, Nevada. June 25-28.
115. English, A.R., **A. Echeverry**, J.O. Sarturi, T.L. Opheim, K.K. Nightingale, M.F. Miller, M.M. Brashears§. 2017. Antimicrobial resistance patterns of *Enterococcus* isolated from feedlot cattle after feeding direct-fed microbials in diets with and without tylosin. American Meat Science Association (AMSA) 2017 Reciprocal Meats Conference (RMC). College Station, Texas. June 18-21.
116. English, A.R., **A. Echeverry**, J.O. Sarturi, T.L. Opheim, M.F. Miller and M.M. Brashears§. 2017. Antimicrobial Resistances of *Enterococcus* and *Escherichia coli* Recovered from Feces of Beef Cattle Entering a Feedlot System. Beef Industry Food Safety Council (BIFSCo) Beef Industry Safety Summit. Houston, TX. Feb. 28-March2.
117. Alnajrani, M., K. Hanlon, A. English, **A. Echeverry** and M.M. Brashears§. 2017. Comparison of Swab and Grind Sampling Methods for Recovery of Indicator Microorganisms on Beef Trimmings Collected by N60 Sampling Technique. Beef Industry Food Safety Council (BIFSCo) Beef Industry Safety Summit. Houston, TX. Feb 28-March2.
118. Hector Garnica, Andrea English, Darvin Cuellar, and **Alejandro Echeverry**§. 2018. Antimicrobial Resistance Patterns of *Enterococcus* and *Staphylococcus* Species Isolated from Grocery Store Shopping Carts. Poster P2-45. Presented at the International Association for Food Protection Meeting, Salt Lake City, Utah, July 8-11.
119. April Englishbey, Savannah Forgey, Mark Miller, **Alejandro Echeverry**, Mindy Brashears. 2018. Validation of Lactic Acid Spray Applied to Beef Shoulder Clod Subprimals as an Antimicrobial Intervention in a Beef Processing Environment. Poster

- P2-134. Presented at the International Association for Food Protection Meeting, Salt Lake City, Utah, July 8-11.
120. Akhil Reddy Bora, Mindy Brashears§, Kendra Nightingale, **Alejandro Echeverry**, M. Alexandra Calle. 2018. Identification of a Single Selective Enrichment Media for the Simultaneous Recovery of *Salmonella* and *Escherichia coli* O157 from Ground Beef Samples. P2-183. Presented at the International Association for Food Protection Meeting, Salt Lake City, Utah, July 8-11.
121. A. N. Orange, M. M. Brashears, M. F. Miller, and **A. Echeverry**§. 2018. Poster 114: Reduction of *Salmonella* In Post-Harvest Hot Carcass Pork Using Multiple Interventions. Presented at the 71st AMSA Reciprocal Meat Science Annual Meeting. Kansas City, MO, June 24-27.
122. A. N. Orange, M. M. Brashears, M. F. Miller, and A. **Echeverry**§. 2018. Poster 115: 115- Reduction of *Salmonella* In Post-Harvest Chilled Pork Head Meat Using Multiple Interventions. Presented at the 71st AMSA Reciprocal Meat Science Annual Meeting. Kansas City, MO, June 24-27.
123. Ishwar Katawal, M. M. Brashears§, **A. Echeverry**, A. Calle, M. F. Miller. 2018. Poster 127: Validation of Interventions on Raw Ground Beef Components; Cheek Meat And Weasand. Presented at the 71st AMSA Reciprocal Meat Science Annual Meeting. Kansas City, MO, June 24-27.
124. P. M. Moncada, M. Brashears, **A. Echeverry**, M. Miller, D. Casas, A. Ramirez, B. Inestroza. 2018. Poster 136- Variation of Antimicrobial Resistance Patterns Of *Salmonella* Isolated From Honduran Meat And Poultry Products. Presented at the 71st AMSA Reciprocal Meat Science Annual Meeting. Kansas City, MO, June 24-27
125. April. K. Englishbey, Mindy M. Brashears, Alejandra Ramirez-Hernandez, **Alejandro Echeverry**, and Markus. F. Miller. 2018. Reduction of microbial loads on beef trim in a submersion intervention treatment in a commercial fabrication facility in the United States. Submitted to the 64th International Congress of Meat Science and Technology (ICoMST) conference (August 12-17, 2018). Melbourne, Australia. Accepted for presentation.
126. Ayodeji Adeniyi, Remio Moreira, Darvin Cuellar and **Alejandro Echeverry**§. 2019. Evaluation of *Salmonella* and Shiga Toxin-producing *Escherichia coli* Presence in Various Pet Foods Using Rapid PCR-based Assay as Pre-screening Method. Poster P3-95. Presented at the International Association for Food Protection Meeting, Louisville, Kentucky, July 21-24.
127. Darvin Cuellar, Remio Moreira, Ayodeji Adeniyi, Don Stull and **Alejandro Echeverry**§. 2019. Antimicrobial Effect of Microwave Treatment on Beef Jerky Inoculated with *Salmonella* and *Listeria monocytogenes*. Poster P3-198. Presented at the International Association for Food Protection Meeting, Louisville, Kentucky, July 21-24.

128. Keelyn Hanlon, Andrea English, **Alejandro Echeverry**, Mark Miller and Mindy Brashears. 2019. Effectiveness of Organic Acid Interventions for Reduction of *Escherichia coli* on Pork Carcasses in a Small-scale Pork Harvest Facility. Poster P3-209. Presented at the International Association for Food Protection Meeting, Louisville, Kentucky, July 21-24.
129. Andrea English, Keelyn Hanlon, **Alejandro Echeverry**, Mark Miller and Mindy Brashears. 2019. Effectiveness of Organic Acid Interventions for Reduction of *Escherichia coli* on Pork Carcasses in a Large-scale Pork Harvest Facility with Blast Chilling. Poster P3-210. Presented at the International Association for Food Protection Meeting, Louisville, Kentucky, July 21-24.
130. Rodriguez, K., D. Vargas, D. R. Woerner, M. F. Miller, and **A. Echeverry**§. 2019. Evaluation of microbial indicators on pork loins after application of four different antimicrobials. Poster 158. Presented at the Reciprocal Meat Conference (RMC) in Fort Collins, Colorado, June 23-26.
131. Ayodeji Adeniyi, Remio Moreira, Darvin Cuellar and **Alejandro Echeverry**§. 2019. Evaluation of *Salmonella* and Shiga Toxin-producing *Escherichia coli* Presence in Various Pet Foods Using Rapid PCR-based Assay as Pre-screening Method. Presented at the Bob Albin Poster Competition, Lubbock, TX.
132. Cuellar, D., Remio Moreira, Ayodeji Adeniyi, Don Stull, **Alejandro Echeverry**§. 2019. Antimicrobial Effect of Microwave Treatment on Beef Jerky Inoculated with *Salmonella* or *Listeria monocytogenes*. Presented at the Longhorn Institute of Food Technologist (LIFT) Annual Suppliers Night Conference. Frisco, TX November 21-22.
133. Darvin Cuellar, Don Stull, Ayodeji Adeniyi, Remio Moreira, and **Alejandro Echeverry**§. 2020. Antimicrobial Effect of Microwave Treatment on Beef Jerky Inoculated with *Salmonella* and *Listeria monocytogenes*. Presented at 54th Annual Microwave Power Symposium (IMPI 54) Virtual Meeting. Savannah, Georgia, June 15-17, 2020.
134. David A. Vargas, Mark F. Miller, Dale R. Woerner, **Alejandro Echeverry**§. 2020. Microbial growth and shelf-life study on pork loins by the application of different antimicrobials. Presented at Virtual meeting, August 1-8, 2020. Poster AMSA2020-1038.
135. Diego E. Casas, Savannah J. Forgey, **Alejandro Echeverry**, Marcos X. Sanchez-Plata, Jhones O. Sarturi, Markus F. Miller§. 2020. Effect of L28 supplementation as direct fed microbial on beef cattle pathogen shedding and indicator microorganism presence. Presented at the American Meat Science Association/International Congress of Meat Science and Technology (AMSA/ICoMST) Virtual meeting, August 1-8, 2020. Poster AMSA2020-1310.
136. Vanthana Doraiswamy, Darvin Cuellar, Remio Moreira, Ayodeji Adeniyi and **Alejandro Echeverry**§. 2020. Evaluation of Temperature and Time Incubation Conditions for the Enumeration of Naturally Occurring Indicator Microorganisms in

Ground Pork. *Submitted to the American Society of Microbiology Annual Meeting (*Abstract Accepted, Meeting cancelled due to COVID-19).*

137. Darvin Cuellar, Don Stull, and **Alejandro Echeverry**§. 2020. Use of Microwaves To Reduce Molds In Wheat Tortillas. *Submitted to the American Society of Microbiology Annual Meeting (*Abstract Accepted, Meeting cancelled due to COVID-19).*
138. Darvin Cuellar, Dons Stull, and **Alejandro Echeverry**§. 2021. Use of novel microwave technology as a hurdle antimicrobial intervention to decontaminate *Salmonella* spp. in chicken breast. Presented at 55th Annual Microwave Power Symposium (IMPI 55) Virtual Meeting. June 28-July1, 2021.
139. David Vargas Arroyo, Diego Casas, **Alejandro Echeverry**, Marcos X. Sanchez-Plata and Mark F. Miller§. 2021. In Plant Validation Study of Peracetic Acid Intervention on Whole Beef Carcasses Using *Escherichia coli* Surrogates. Poster P1-47. Presented at the International Association for Food Protection Annual Meeting, Phoenix, Arizona.
140. Diego E. Casas, David A. Vargas, Rossy L. Bueno, **Alejandro Echeverry**, Marcos X. Sanchez-Plata, Mindy M. Brashears, Markus F. Miller§. 2021. Biomapping of microbial indicators on beef carcasses, subprimals, and trimmings through the processing line after application of Multiple antimicrobial Interventions. Poster 24, Monday. Presented at the American Meat Science Association Reciprocal Meat Conference (AMSA/RMC) Annual meeting, August 15-18, 2021
141. David A. Vargas, Diego E. Casas, **Alejandro. Echeverry**, Mindy M. Brashears, Marcos X. Sánchez-Plata, Markus F. Miller§. 2021. Novel Ozone Generation Technology (Bio-Safe) Intervention Compared to Lactic Acid in Variety Meats on a Beef Processing Plant. Poster 25, Monday. Presented at the American Meat Science Association Reciprocal Meat Conference (AMSA/RMC) Annual meeting, August 15-18, 2021

Invited

None to report

Technical reports: total of 28

1. Brooks, JC, Mindy M. Brashears, Mark F. Miller, **Alejandro Echeverry**. 2007. Development and Validation of Intervention Strategies to Control *Escherichia coli* O157:H7 and *Salmonella* spp in Needle Tenderized and Injected Beef. Submitted to the National Cattlemen’s Beef Association (NCBA).
2. **Echeverry, Alejandro**, Mindy M. Brashears. 2008. Evaluation Of Interventions In Spiced Frozen Ground Beef Patties. Submitted to Cargill Meat Solutions.

3. **Echeverry, Alejandro**, Mindy M. Brashears. 2009. Validation of Lactic Acid as an Antimicrobial Intervention for carcasses in Beef Processing Plants. Report submitted to Nebraska Beef.
4. **Echeverry, Alejandro**, Mindy M. Brashears. 2009. Validation of Hot Water Wash as an Antimicrobial Intervention in Beef Processing Plants. Report submitted to Nebraska Beef.
5. **Echeverry, Alejandro**, Mindy M. Brashears. 2009. Validation of Lactic Acid as an Antimicrobial Intervention during fabrication in Beef Processing Plants. Report submitted to Nebraska Beef.
6. **Echeverry, Alejandro**, Mark F. Miller, Mindy M. Brashears. 2009. NB In Plant Validation – Application of Lactic Acid and Ozone to Subprimals. Report submitted to Nebraska Beef.
7. **Echeverry, Alejandro**, Todd Brashears. 2011. APEC Laboratory Capacity Assessment Results. Submitted to USDA/FAS & to The Food Safety Cooperation Forum's Partnership Training Institute Network (FSCF/PTIN) of APEC.
8. Mindy M. Brashears, Mark F. Miller, **Alejandro Echeverry**. 2012. Reduction of “Big 6” non-O157 STEC on Hot Beef Sub-Primals using 5% Lactic Acid and Hot (180 F) Water Washes Under Simulated Industry Conditions. Report submitted to Nebraska Beef.
9. Brashears, Mindy M., Guy Loneragan, Chance J. Brooks, Mark Miller, Dr. Kendra Nightingale, **Alejandro Echeverry**, Dr. Sara Gragg. 2013. Mitigation of *Salmonella* in Lymph Nodes Using a Pre-Harvest Intervention. Submitted to the American Meat Institute Foundation (AMIF).
10. Brashears, M. M., Sanchez, M., **Echeverry, A.**, Parks, A., Inestroza, B., Ramirez-Hernandez, A. 2015. Determination of D and Z values for *Salmonella* ssp. in Rendered Products. Submitted to Fats and Proteins Research Foundation (FPRF).
11. Ansen R. Pond, Mindy Brashears, Marcos Sanchez, and **Alejandro Echeverry**. 2016. Industry White Paper - Thermal Parameters for Raw Beef Materials Utilized in Rendering. Submitted to Fats and Proteins Research Foundation (FPRF).
12. Mindy M. Brashears, Markus F. Miller, **Alejandro Echeverry**, Martha Maradiaga, Siroj Pokhare. 2016. Efficacy of Lactic Acid as an Antimicrobial Intervention in Beef carcasses. Submitted to Nebraska Beef.
13. **Echeverry, A.**, Cuellar, DA., Brooks, JC, Sanchez-Plata, MX, Brashears, M. 2017. Evaluating the potential non-thermal microwave effects of microwave irradiation treatments for STEC decontamination of fresh and frozen beef intended for intact and non-intact beef products. North American Meat Institute Foundation (AMIF).
14. Brashears, M.M. Nightingale K., **Echeverry, A.** 2017. Efficacy of Interventions to reduce *Salmonella* on Fresh Pork Products to Improve Food Safety. Submitted to National Pork Board (NPB).
15. **Alejandro Echeverry**. 2017. Annual Technical, Financial and Progress Report. Project title: Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern

United States: Texas, Oklahoma, and New Mexico. Food and Drug Administration (FDA) award grant # 5U01FD005789-02.

16. **Echeverry, A.**, D. Stull. 2018. Use of microwaves for *Salmonella* and *Listeria* inhibition on beef jerky. Submitted to Jack Link's Beef Jerky.
17. Mindy M. Brashears, Mark F. Miller, **Alejandro Echeverry**. 2018. Validation of Antimicrobial Interventions Applied to Beef Shoulder Clod Sub-Primals. Report submitted to Nebraska Beef.
18. **Alejandro Echeverry**. 2018. Annual Technical, Financial and Progress Report. Project title: Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. Food and Drug Administration (FDA) award grant # 5U01FD005789-03.
19. **Echeverry, A.** 2019. Evaluation of UV light and gaseous ozone (Photohydroionization) on reducing *Escherichia coli* O157:H7 on beef trimmings. Submitted to Valley Meats / North American Funds LLC.
20. **Echeverry, A.**, Dale R. Woerner, Mark F. Miller. 2019. Microbial growth and shelf-life study on pork loins by the application of different antimicrobials. Submitted to Passport Food Safety / Dwight & Church.
21. Sarturi, J., Miller, MF., **Alejandro Echeverry**. 2019. Supplementation of L28 Direct-Fed Microbial on Growth Performance, Feed Efficiency, and Pathogen Shedding in Beef Cattle Fed Conventional Diets Supplemented with and without Sub-Therapeutic Antibiotics. Submitted to Texas Beef Council.
22. **Alejandro Echeverry**. 2019. Annual Technical, Financial and Progress Report. Project title: Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. Food and Drug Administration (FDA) award grant # 5U01FD005789-04.
23. Miller, M.F., Marcos X. Sanchez-Plata, **Alejandro Echeverry**, Savannah J. Forgey, Diego E. Casas. 2020. Effect of L28 as a Direct Fed Microbial on Pathogen Shedding and Antimicrobial Resistance of *Salmonella* and *E. coli*. Submitted to the National Cattlemen's Beef Association (NCBA).
24. Markus F. Miller, **Alejandro Echeverry**. 2020. Validation of Antimicrobial Interventions Applied to Cold Beef Carcass. Submitted to Nebraska Beef.
25. Markus F. Miller, **Alejandro Echeverry**. 2020. The Efficacy of Lactic Acid as an Antimicrobial Intervention in Beef Sub-primal and Trims Fabrication. Submitted to Nebraska Beef.
26. Markus F. Miller, **Alejandro Echeverry**. 2020. In-plant Study Demonstrating the Efficacy of Lactic Acid as an Antimicrobial Intervention in Beef Variety Meat Production (Head/Cheek, Livers, and Hearts). Submitted to Nebraska Beef.
27. **Alejandro Echeverry**. 2020. Annual Technical, Financial and Progress Report. Project title: Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern

United States: Texas, Oklahoma, and New Mexico. Food and Drug Administration (FDA) award grant # 5U01FD005789-05.

28. **Alejandro Echeverry**. 2021. Annual Technical, Financial and Progress Report. Project title: Antibiotic Resistance Surveillance in Retail Food Specimens in Texas and Oklahoma. Food and Drug Administration (FDA) PAR20-124 - award grant # 5U01FD007128-02.

Other publications: total of 2

1. **Alejandro Echeverry**. 2011. “Control microbiológico durante el proceso de ablandamiento mecánico e inyección de la carne”. Carnetec. Enero-Marzo: p. 48-52.
2. Andrea R. English, **Alejandro Echeverry**, Jhones O. Sarturi, Tosha L. Opheim, Kendra K. Nightingale, Mark Miller, and Mindy M. Brashears. 2017. Meat Science Review: Effect of direct-fed microbial on *Enterococci* antibiotic resistance. The National Provisioner. Vol. 232 (1):22-28

TV and Radio Programing/News releases: total of 2

1. **Alejandro Echeverry**. 2014. International Food Safety Projects conducted by ICFIE group. Fox Ag Talk Show (AM 980/FM100.8) – Aired June 10, 2014.
2. **Alejandro Echeverry**, Jhones Sarturi. 2016. La Entrevista Canal 11 con Raul Valladares (Interview in Honduras about the Agricultural Extension Program Project signed between Texas Tech University and the Government of Honduras. Available at: <http://www.canal11.hn/1506/la-entrevista-convenios-de-apoyo-a-la-ganaderia>

INVITED PRESENTATIONS AND LECTURES: total of 23 (U.S. talks only).

1. Loneragan, G. H., M. M. Brashears, **A. Echeverry**, B. A. Wagner. 2003. Potential non-uniform distribution of *E. coli* O157 in feces and underestimation of prevalence. Proceedings of the 84th Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), November 9-11, Chicago, IL. Academic Presentation. Audience: Academic, industry professionals.
2. **Alejandro Echeverry**, G. H. Loneragan, M. M. Brashears. 2004. Survival of *Escherichia coli* O157:H7 in Manure under Different Storage Conditions. Presented at the 91st Annual Meeting of the International Association for Food Protection (IAFP). Phoenix, AZ. August 8-11 2004. Technical Session 068 – Pathogens. Academic Presentation. Audience: Academic, industry professionals.
3. **Alejandro Echeverry**, J. Chance Brooks, M. F. Miller, J. A. Collins and Mindy M. Brashears. 2008. Validation of intervention strategies to control *Escherichia coli*

- O157:H7 and *Salmonella* Typhimurium DT 104 in moisture enhanced beef. Presented at the 95th Annual Meeting of the International Association for Food Protection (IAFP), August 2 -6, Columbus, Ohio. Technical Session 3 - Toxicology, Seafood and Meat and Poultry. Academic Presentation. Audience: Academic, food industry professionals.
4. **Alejandro Echeverry**, J. Chance Brooks, M. F. Miller, J. A. Collins and Mindy M. Brashears. 2008. Validation of intervention strategies to control *Escherichia coli* O157:H7 and *Salmonella* Typhimurium DT 104 in beef subjected to mechanical tenderization in a simulated packer setting. Presented at the 61st Reciprocal Meat Conference at the University of Florida. Gainesville, Florida, June 22-25, 2008. Academic Presentation. Audience: Academic, meat industry professionals.
 5. **Alejandro Echeverry**, Mindy M. Brashears, M. F. Miller. 2009. Application of GloGerm® to live animals and transfer to carcass during the slaughter process. Presented at the 1st Pre-Harvest Food Safety Workshop. International Center for Food Industry Excellence, Texas. Tech University, June 17-18, 2009. Lubbock, TX. Academic and interactive Presentation. Audience: Academic, meat industry professionals, feedlot managers.
 6. **Alejandro Echeverry**, M.F. Miller. and Mindy M. Brashears. 2010. Safety of Meat Products: Interventions and Controls in the United States and Mexico. Presented at the 63rd Reciprocal Meat Conference (RMC), June 19 -23, Lubbock, Texas. Academic Presentation. Audience: Academic, meat industry professionals,
 7. **Alejandro Echeverry**, Mindy M. Brashears. 2011. Food Safety Capacity Building Initiatives in Latin America. 1st Food Safety Trade and Commerce conference. Miami, FL, December 2-3. Courtyard Marriott Hotel. Academic Presentation. Audience: Academic, meat industry professionals, and government officials from 25 countries from Latin American and the Caribbean.
 8. **Alejandro Echeverry**. 2012. Biosecurity: Don't Mess with Hamburger or Anthrax in Texas. Presented at the 22nd Annual meeting of the Society of Environmental Journalist (SEJ). Lubbock, Texas. October 17-21. Academic Presentation. Audience: Academic, environmental reporters, public.
 9. Chaney, W.E., Y.T. Liao, M.J. Wolf, A.R. Parks, J. Martin, A.J. Garmyn, **A. Echeverry**, L.D. Thompson, M.F. Miller, J.C. Brooks, G.H. Loneragan, and M.M. Brashears. 2012. *Escherichia coli* O157:H7 and non-O157 STEC Survival and Reduction on Intact Beef Subprimal and Non-intact Beef Trim and Steaks by Intervention and Cooking Processes. Beef Safety Summit (BIFSCO), March 6-9, Tampa, FL. Academic Presentation. Audience: Academic, meat industry professionals.
 10. Gragg, S.E., G.H. Loneragan, K.K. Nightingale, J.R. Elder, H. Ruiz, M.F. Miller, **A. Echeverry**, and M.M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. Beef Safety Summit (BIFSCO), March 6-9, Tampa, FL. Technical Presentation. Audience: Academic, meat industry professionals.

11. Byron Chaves, Lyda Garcia, **Alejandro Echeverry**, Markus Miller, Mindy Brashears. **2013**. Prevalence of *Salmonella enterica*, *Escherichia coli* O157:H7 and Non-O157 Shiga Toxin-producing *Escherichia coli* in Beef Cuts Sold at Retail Markets in Costa Rica. Presented at the 102nd annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25 – July 28. Academic Presentation. Audience: Academic, food industry professionals, international audience.
12. **Alejandro Echeverry**, W. Evan Chaney, Guy H. Loneragan, J. Chance Brooks, Kendra Nightingale and Mindy M. Brashears. 2013. Post Harvest Pathogen Reduction Session: *Escherichia coli* O157:H7 as an Indicator for Efficacy of Antimicrobial Interventions to Control non-O157 Shiga Toxin Producing *E. coli* (STEC). Presented at the 2013 Beef Industry Safety Summit (BIFSCO). March 13-15, Dallas, Texas. Technical Presentation. Audience: Academic, meat industry professionals.
13. **Alejandro Echeverry**, Mindy M. Brashears. 2013. Beef Safety: Mechanically Tenderized and Needle Enhanced Products and Foodborne Pathogens. Presented at the 2013 Beef Industry Safety Summit (BIFSCO). March 13-15, Dallas, Texas. Technical Presentation. Audience: Academic, meat industry professionals.
14. Morales, Sarahi, Sara Trojan, **Alejandro Echeverry**, Mindy M. Brashears, and M. Todd Brashears. 2014. An Evaluation of the Needs of Stakeholders within the Bahamian Food Production - Consumption Continuum. Presented at the 2014 Association for International Agricultural and Extension Education (AIAEE) meeting, Deauville Beach Resort, Miami, Florida. April 27-May 1. Academic Presentation. Audience: Academic.
15. Pond, N., L. Guillen, **A. Echeverry**, K. Knightingale, J. Chance Brooks, G. H. Loneragan, and M. M. Brashears. 2014. Environmental Mitigation of *Escherichia coli* O157:H7, Non-O157 Shiga-Toxigenic *E. coli* (STEC) with *Lactobacillus acidophilus* NP51 in Fecal and Soil Samples. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas. Technical Presentation. Audience: Academic, meat industry professionals.
16. Pokharel, Siroj, J. C. Brooks, J. N. Martin, **A. Echeverry**, A. Parks, B. Corliss, M. M. Brashears. 2014. The Risk and Thermal Susceptibility of Non O157 and O157:H7 Shiga toxin Producing *Escherichia coli* in Non -Intact Beef Products Intended for Food Service or Retail. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas. Technical Presentation. Audience: Academic, meat industry professionals.
17. Byron D. Chaves, **Alejandro Echeverry**, Lyda G. Garcia, Markus F. Miller, and Mindy M. Brashears. **2014**. Seasonal Prevalence of non-O157 Shiga Toxin-Producing *Escherichia coli* (STEC) Molecular Markers on Bovine Hides and Carcasses in Costa Rica. Presented at the 2014 Beef Industry Safety Summit (BIFSCO). March 4-6, Hyatt Regency Hotel DFW, Dallas, Texas. Academic Presentation. Audience: Academic, meat industry professionals

18. **Alejandro Echeverry.** 2015-2018. Hygienic Design of Processing Plants – Am I complying with the hygienic requirements to ensure the safety of my product? [In Spanish: *Diseño Sanitario de Plantas - O, estoy cumpliendo con los requisitos higiénicos necesarios para garantizar la inocuidad de mi producto?*]. Part of an annual presentation as invited speaker at *Meat School en Espanol*. Texas Tech University, Lubbock. Technical Presentation. Audience: Meat and poultry industry professionals, government officials, and inspectors from >20 Latin American and the Caribbean countries.
19. **Alejandro Echeverry.** 2019. Hygienic Design of Processing Plants for allergen control [In Spanish: *Diseño Sanitario de Plantas – control de alérgenos en la planta de procesamiento*]. Meat School en Espanol. Texas Tech University, Lubbock, July 7-13. Audience: Meat and poultry industry professionals, government officials, and inspectors from >20 Latin American and the Caribbean countries
20. **Alejandro Echeverry.** 2019. Hygienic Design in dairy processing plants: tools for contamination prevention. Hydrite Chemical Co’s Regional Food Safety and Sanitation Short Course for Dairy Plants. Texas Tech University, Lubbock, March 12-13. Technical Presentation. Audience: dairy industry professionals.
21. **Alejandro Echeverry.** 2019. Hygienic plant design: The forgotten factor to control hazards? 11th Annual NLS Food Quality Symposium. Indian Wells, California. December 9-11. Technical Presentation. Audience: food industry professionals, QA departments, Food Industry CEOs.
22. Darvin Cuellar, Remio Moreira, Ayodeji Adeniyi, Don Stull, **Alejandro Echeverry.** 2020. Antimicrobial Effect of Microwave Treatment on Beef Jerky Inoculated with *Salmonella* or *Listeria monocytogenes*. Presented at the Annual Beef Industry Safety Council Meeting (BIFSCO). Hyatt Regency Resort, San Antonio, Texas. March 2-6. Technical Presentation. Audience: meat industry professionals, academia.
23. Diego Casas, David Vargas Arroyo, Emile Randazzo, Dan Lynn, **Alejandro Echeverry**, Mindy Brashears, Marcos X. Sanchez-Plata and Mark F. Miller. 2021. In-Plant Validation of Novel On-Site Ozone Generation Technology (Bio-Safe) Compared to Lactic Acid on Beef Carcasses and Trim Using Natural Microbiota and *Salmonella* and *E. coli* O157 Surrogate Enumeration. Technical Oral Session T3-08. Presented at the International Association for Food Protection Annual Meeting, Phoenix, Arizona

GRADUATE STUDENT COMMITTEES

Completed:

Chaired: total of 4

M.S.

1. Darvin Cuellar. 2017. *Effects of microwave irradiation exposure on STEC-inoculated fresh and frozen beef intended for intact and non-intact beef products.*

2. Remio Texeira. 2019. *Efficacy of UV light, Photohydroionization® and Beefxide® on reducing Escherichia coli O157:H7 on beef trimmings used in ground beef production.*
3. Ayodeji Adeniyi. 2019. *Presence and Antimicrobial Susceptibility Patterns of Salmonella and Shiga Toxin-producing Escherichia coli (STEC) in Pet Food.*
4. Vanthana Doraiswamy. 2020. *Evaluation of Temperature and Time Incubation Methods for the Enumeration of Naturally Occurring Indicator Microorganisms in Ground Pork and Ground Beef.*

Ph.D.

1. Darvin Cuellar. 2020. *Use of microwave irradiation treatments to extend quality and safety of diverse food matrices.*

Co-chaired: total of 1

M.S.

1. Andres David Vargas. 2019. *Microbial Growth and Shelf-life Study on Pork Loins by the Application of Different Antimicrobials* (Co-chaired with Dr. Mark F Miller)
2. Mariana Fernandez. 2020. *Dynamics of microbial shedding in market swine during fasting and transportation* (Co-chaired with Dr. Alexandra Calle)

Ph.D.

None to report

Committee member of: total of 16

M.S.

1. Erin Castelli. 2017. *Reduction of Shiga-Toxin Producing Escherichia coli (STEC) and Salmonella in Cattle Manure using Lactobacillus L28 as an Environment Mitigation Treatment in the Feedlot*
2. Kathleen Grace L. Fermin. 2018. *Reduction of Methicillin-Resistant Staphylococcus aureus in Fabrics using Machine-Washing Treatments and Microwaves.*
3. Ashley Nicole Orange. 2018. *Reduction of Salmonella in post-harvest hot pork carcass and chilled head meat using multiple USDA-FSIS approved interventions*
4. Akhil Bora. 2018. *Identification of a single selective enrichment media for the simultaneous recovery of Salmonella and E. coli O157 on Beef Hide Swabs and fecal samples.*
5. Ishwar Katawal. 2018. *Lactobacillus salivarius L28 in dog kibble results in shifts in microbiological indicators in pet fecal samples after feeding.*
6. Kimberly Cerjan. 2019. *Evaluating the effect of lactic acid submersion on microbiological and organoleptic qualities of lamb carcasses.*

7. Karla Melissa Rodriguez. 2019. *Smokehouse cooking cycle and post-package pasteurization treatment for reducing Salmonella spp., Shiga toxin-producing Escherichia coli and Listeria monocytogenes in ready-to-eat meat and poultry products.*
8. Jorge Franco. 2020. *Efficacy of Lactobacillus salivarius (L28) to control foodborne pathogens in a variety of matrices*

Ph.D.

1. Siroj Pokharel. 2014. *Internalization and Thermal Susceptibility of Shiga Toxin-Producing Escherichia coli (STEC) and Internalization and Antimicrobial Susceptibility of Salmonella Typhimurium in Marinated Beef Products Under Simulated Industrial Conditions.*
2. Martha Maradiaga. 2016. *Characterization of Antimicrobial Resistant (AMR) Salmonella enterica isolates associated with cattle at harvest in Mexico.*
3. Nanditha Jasti. 2017. *Efficacy of lactic acid, hot water, and acidified sodium chlorite on the reduction of non-o157 shiga toxin producing Escherichia coli (STEC) on hot carcass and chilled beef subprimals in comparison to Escherichia coli O157:H7.*
4. Alejandra Ramirez. 2018. *Assessing the Effect of Interventions on Pathogens and The Microbial Ecology of the Poultry Processing Chain by Microbial Profiling and the Phenotypic and Genotypic Characterization of Antimicrobial Resistance.*
5. David Campos. 2019. *Isolation, Application and Optimization of Lactic Acid Bacteria Cultures L28 Lactobacillus salivarius and J19 Enterococcus faecium to Reduce Listeria monocytogenes on Cheese.*
6. Andrea English. 2019. *Lactobacillus salivarius (L28) as an effective alternative to subtherapeutic antibiotics in beef cattle feeding to mitigate emergence of antimicrobial drug resistance.*
7. Katelyn Ortega Bennett. 2019. *Phenotypic and Genotypic Characterization of Persistent and Transient L. monocytogenes Strains to Elucidate Mechanisms of Survival in the Food Processing Plant Environment and Impact on Virulence.*
8. Ilan Arvelo. 2019. *Novel strategies to model biofilm development and foodborne pathogens persistence on food environmental surfaces.*
9. Loron Pinnock Brown. 2020.
10. Juanfra Devillena. 2020.

External reviewer: total of 3

1. Cassandra Chancey - M.S. 2010. *Survivability of E. coli O157:H7 in Needle Tenderized Beef Steaks during Lactic Acid Application and Cooking (Ad Hoc).*
2. Ashley Hartzog-Hawkins – M.S. 2012. *Organizational climate and food safety training change employee behaviors and pathogen loads in non-TIF beef packing plants in México (Ad Hoc).*

3. Enrique Alfonso Torres Llorena – Ph.D. 2018. “*Efectos de diferentes temperaturas y tiempos de cocción sobre las propiedades fisicoquímicas, la estructura y la pérdida de peso del músculo de carne bovina M vastus lateralis durante la cocción por inmersión en agua*”. Universidad de La Salle, Colombia.

In Progress:

Chair: total 2

M.S. None

Ph.D.

1. Darvin Cuellar. Anticipated completion date: December 2021.

Co-chaired: total of 0

M.S.

Ph.D.

Committee member of: total of 4

M.S.

1.

Ph.D.

1. Rossy Bueso
2. Loron Brown
3. David Vargas
4. Juan Devillena

Visiting International Graduate Students: total of 0

Visiting Scientist: total of 0

UNDERGRADUATE ADVISING

Undergraduate academic advising: None to report

Undergraduate research mentor: total of 13

1. Graysen Ortega – Food Science, Texas Tech University

2. Katelyn Ortega – Food Science, Texas Tech University
3. Erin Castelli – Food Science, Texas Tech University
4. David Campos – General Studies, Texas Tech University
5. Ashleigh Willems – Food Science, Texas Tech University
6. Katelyn Faulk – Howard Hughes Medical Institute, Texas Tech University
7. Matt Hardin - Food Science, Texas Tech University
8. Cesar Augusto Sepulveda – Animal Sciences, International Student, Universidad Nacional de Colombia, Medellín Campus.
9. Esau Salgado – Food Science, International Student, Escuela Agricola Panamericana el Zamorano (Honduras).
10. Gerson Andres Flores - Food Science, International Student, Escuela Agricola Panamericana el Zamorano (Honduras).
11. Luis Lumitasig - Food Science, International Student, Escuela Agricola Panamericana el Zamorano (Honduras).
12. Johana Katherin Torres Yaselga - Food Science, International Student, Escuela Agricola Panamericana el Zamorano (Honduras).
13. Erika Thalia Ramos – Biology, Texas Tech University

TEACHING RESPONSIBILITIES

1. Courses currently taught at Texas Tech University:
 - a. FDSC 3305 – *Principles of Food Engineering*, 3 credits (2014 – present)
 - b. ANSC 5100 – *Seminar in Agriculture: Food Science and Food Safety*, 1 credit
 - c. FDSC 4304 – *Field Studies in Food Processing and Handling*, 3 credits
 - d. FDSC 3306 – *Food Plant Design*, 3 credits
 - e. FDSC 5306 – *Hygienic Design of Food Processing Plants*, 3 credits
 - f. FDSC 5307 *Topics in Food Science / Hygienic Design*, 3 credits
2. Courses previously taught at Texas Tech University – Non-Credit Instruction
 - g. FDSC 3301/5301 – *Food Microbiology*, 3 credits (2007-2012)
 - h. FDSC 3309/5309 – *Food Safety*, 3 credits (2007-2012)

FIVE YEAR SUMMARY OF TEACHING EVALUATIONS FOR Alejandro Echeverry

Term/Class	Number of Students	Course objectives (Question #1) Mean	Effectiveness (Question #2) Mean	Valuable learning experience (Question #3) Mean
Spring 2016				
ANSC 5100	6	5.0	5.0	4.83
FDSC 3305	Class not conducted due to low enrollment			
Fall 2016				
FDSC 4304	4	Too Few Responses		

FDSC 5307	6	5.0	5.0	4.5
Spring 2017				
ANSC 5100	16	5.0	4.80	5.0
FDSC 3305	11	4.38	4.25	4.50
Fall 2017				
FDSC 4304	8	3.71	4.14	3.71
FDSC 5307	5	4.80	4.40	4.60
Spring 2018				
ANSC 5100	13	4.82	4.73	4.73
FDSC 3305	12	4.56	4.22	4.0
Fall 2018				
FDSC 4304	8	4.6	4.6	4.8
FDSC 3306	Class not conducted due to low enrollment			
FDSC 5306	Class not conducted due to low enrollment			
Spring 2019				
ANSC 5100	14	4.5	4.25	4.25
FDSC 3305	7	4.0	4.67	5.0
Fall 2019				
FDSC 4304	12	4.8	4.9	4.8
FDSC 3306	5	4.0	4.0	4.0
FDSC 5306	8	4.6	3.6	3.4
Spring 2020				
ANSC 5100	8	4.0	4.0	4.0
FDSC 3305	10	5.0	5.0	5.0
Fall 2020*				
FDSC 4304	Class not conducted due to Covid-19 Pandemic			
FDSC 3306	3 - Insufficient Responses – 33% Response Rate (1/3)			
FDSC 5306	2 - Insufficient Responses – 0% Response Rate (0/2)			
Spring 2021				
ANSC 5100	6	5.0	5.0	4.0
FDSC 3305	7	5.0	4.6	4.8
Total	167	4.60	4.51	4.44

Other Teaching Responsibilities

One-on-one teaching and meetings to cover diverse areas of food and animal science, usually no evaluations are provided:

1. FDSC 5307. Topics in Food Science (2015-present)

2. FDSC 4001. Problems in Food Science (2016-present)
3. ANSC 7000. Research (2016-present)
4. ANSC 5001. Problems in Animal Science (2018-present)
5. FDSC 6000. Thesis (2017-present)

GRANTS AND AWARDS: total funded: \$ 4,867,895.07

(Own portion funded: \$ \$1,191,139.65; 24.47%)

§Indicates PI/PD on the grant

**Funded:
2009**

Total: \$50,000

1. Mindy M. Brashears§, M.F. Miller, **Alejandro Echeverry**, Guy H. Loneragan, Maria Salud Rubio. Study on *Salmonella* and Pathogenic *E. coli* Prevalence and Generic *E. coli* Quantitative Baselines in Raw Pork and Beef at Retail Outlets in Mexico. U.S. Meat Export Federation (USMEF). \$50,000 (\$0; Post-doc, no sub-contract).

2011

Total: \$110,686.23

1. Mindy M Brashears§, Brooks, JC; **Echeverry A**; Loneragan, GH; Miller, MF; Nightingale, KK. Mitigation of *Salmonella* in Lymph nodes using a pre-harvest intervention. American Meat Institute Foundation. \$89, 914 (\$0; Research Assistant Professor, no sub-contract).
2. **Alejandro Echeverry**§, Todd Brashears, Mindy M. Brashears. FAS Capacity Building and Assessment of Capabilities and Deficiencies of the Asia-Pacific Economic Cooperation (APEC) Laboratory Network. U.S Department of Agriculture. \$20,772.23 (60%: 12,463.34)

2012

Total: \$90,000

1. Mindy M. Brashears§, **Alejandro Echeverry**, Guy Loneragan, Markus F Miller. Establishment of a non-O157 Shiga toxin Producing *E. coli* (STEC) baseline. National Cattlemen's Beef Association. \$40,000 (5%, \$2,0000).
2. Mindy Brashears§, J. Chance Brooks, **Alejandro Echeverry**, Lacey Guillen, and Guy Loneragan. *E. coli* O157:H7 as an Indicator for the "Big 6" STECs, National Cattlemen's Beef Association. \$50,000 (10%, \$5,000).

2013

Total: \$215,252.48

1. Mindy M. Brashears§, Mark F. Miller, Sara Trojan, Todd Brashears, and **Alejandro Echeverry**. Enhancing the viability of the Honduran cattle industry through an integrated approach. Honduran Beef Cattle Association. \$66,800 (5%, \$3,340).
2. Mindy Brashears§, Chance Brooks, and **Alejandro Echeverry**. The Risk and Thermal Susceptibility of Non-O157 and O157:H7 Shiga-toxin Producing *Escherichia coli* in Non-intact Beef Products Intended for Food Service or Retail. National Cattleman's Beef Association. \$148,452.48 (33%, \$48,989.32)

2014

Total: \$22,000

1. Mindy Brashears§, **Alejandro Echeverry**, Amy Parks, Marcos X. Sanchez. Determination of D and Z values of *Salmonella* ssp. in Rendered Products. Fats & Proteins Research Foundation, Inc. \$22,000 (10%, \$2,200).

2015

Total: \$0.00

None Funded

2016

Total: \$279,982.00

1. **Alejandro Echeverry**§, Mindy Brashears, Chance Brooks, Marcos X Sanchez Plata. Evaluating the potential non-thermal microwave effects of microwave irradiation treatments for STECs decontamination of fresh and frozen beef intended for non-intact beef products. National Cattlemen Beef Association. \$99,982 (50%, \$49,991).
2. Mindy Brashears§, **Alejandro Echeverry**, Mark F Miller, Jhones Sarturi. Alternatives to Subtherapeutic Antibiotics in Beef Cattle Feeding to Improve Performance and Mitigate Emergence of Antimicrobial Drug Resistance. TX Beef Council. \$50,000 (20%, \$10,000)
3. Todd Brashears, Mindy Brashears§, **Alejandro Echeverry**, Mark F Miller, Kendra Nightingale. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. U.S. Department of Health & Human Services. \$130,000 (20%, \$26,000).

2017

Total: \$342,019.43

1. Mindy M. Brashears§, Alejandro Echeverry, Mark F. Miller, Kendra K. Nightingale. Efficacy of Interventions to reduce *Salmonella* on Fresh Pork Products to Improve Food Safety. National Pork Board. \$115,763 (20% \$23,152.60).

2. Marcos X Sanchez Plata§, **Alejandro Echeverry**. Technical assistance to support implementation of food safety programs for FSMA compliance in central American value chains. USDA - Foreign Agricultural Service. \$96,256.43 (30%, \$28,879.63)
3. Todd Brashears, Mindy Brashears§, **Alejandro Echeverry**, Mark F Miller, Kendra Nightingale. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. U.S. Department of Health & Human Services. \$130,000 (20%, \$26,000).

2018

Total: \$2,076,667.25

1. Naima Moutaid-Moussa§, Mindy Brashears, Guy H. Loneragan, **Alejandro Echeverry**, Lauren Gollahon. Impact of a lean beef diets on reducing the risk of developing cancer, diabetes and obesity in mouse models. Multidisciplinary project between COHS, CAS and CASNR. Beef Products Inc. (Empirical Foods). \$1,600,000. (15%, \$240,000).
2. Marcos Sanchez-Plata§, **Alejandro Echeverry**, Alexandra Calle. Technical Assistance on Risk-based SPS system in Colombia. USDA – Foreign Agricultural Service OCB. \$240,000 (33%, \$94,379.83).
3. **Alejandro Echeverry**§, Todd Brashears, Mark F Miller, Kendra Nightingale. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. U.S. Department of Health & Human Services. \$10,667.25 (40%, \$4,266.90).
4. **Alejandro Echeverry**§, Todd Brashears, Mark F Miller, Kendra Nightingale. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States: Texas, Oklahoma, and New Mexico. U.S. Department of Health & Human Services. \$130,000 (40%, \$52,000).
5. **Alejandro Echeverry**, Markus F. Miller§, Jhones Sarturi. Supplementation of L28 Direct-Fed Microbial on Growth Performance, Feed Efficiency, and Pathogen Shedding in Beef Cattle Fed Conventional Diets Supplemented with and without Sub-Therapeutic Antibiotics. Texas Beef Council. \$50,000 (15%, \$15,000).

2019

Total: \$635,947.68

1. **Echeverry, A§**, D.R. Woerner, J.F. Legako, and M.F. Miller. Use of interventions for pork quality: Increasing storage life and safety of fresh head meat and tongues destined for export markets. National Pork Board. \$149,276 (40%, \$59,710.40).
2. **Alejandro Echeverry**§, Todd Brashears, Mark F Miller, Kendra Nightingale. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern

United States: Texas, Oklahoma, and New Mexico. U.S. Department of Health & Human Services. \$130,000 (40%, \$52,000).

3. Mark F. Miller§, Marcos X. Sanchez Plata, **Alejandro Echeverry**. Effect of L28 as a Direct Fed Microbial on Pathogen Shedding and Antimicrobial Resistance of *Salmonella* and *E. coli*. National Cattlemen's Beef Association. \$78,880 (33%, \$26,030.40).
4. Kendra K. Nightingale§, Dale Woerner, **Alejandro Echeverry**, Lindsey Slaughter, Angie Siemens, Tyson Brown. Impact of the feedlot environment microbiome, soil properties and weather on *Salmonella* survival and persistence and evaluation of mitigation strategies to remediate *Salmonella* in soil. National Cattlemen's Beef Association. \$270,229 (20%, \$54,045.80).
5. **Alejandro Echeverry**§. Request for summer salary support for completion and submission of manuscripts to peer-reviewed scientific journals. Competitive CASNR Summer Salary Support Program. Texas Tech University. \$7,562.68 (100%, \$7,562.68).

2020

Total: \$753,340.00

1. Jerrad Legako§, Chance Brooks, **Alejandro Echeverry**, Kendra Nightingale, Marcos X. Sanchez Plata, and D.R. Woerner. Efficacy of common antimicrobial interventions at and above regulatory allowable pick up levels. Foundation for Meat and Poultry Research and Education (FMPRE). \$87,328 (10%, \$8,732.80).
2. Dale R. Woerner, Chance J Brooks, **Alejandro Echeverry**, T.L. Wheeler, S.D. Shackelford, D.A. King, Jerrad F. Legako. Using Rapid Evaporative Ionization Mass Spectrometry (REIMS) as a novel, minimally invasive, real time method for characterization of metabolic variation contributing to flavor, tenderness, and color stability of beef \$41,687 (5%, \$2,084.35)
3. **Echeverry, Alejandro**§, Marcos X. Sanchez-Plata, Mark F. Miller. Antibiotic Resistance Surveillance in Retail Food Specimens in Texas and Oklahoma, 2020-2025. U.S. Department of Health & Human Services. \$155,000 (70%, \$108,500). *Part of an award for a total of \$999,954 over a 5-year period (70%, \$699,967.80).*
4. Marcos Sanchez-Plata§, **Alejandro Echeverry**, Alexandra Calle. Technical Assistance to Support Implementation of Food Safety Programs for FSMA Compliance in Colombia, Ecuador, Paraguay and Peru Value Chains. Value Chain Technical Assistance USDA-FAS-OCBD. \$399,808.00 (\$79,961.60)
5. Dale R Woerner§, Kendra Nightingale, **Alejandro Echeverry**, Lindsey Slaughter. High-resolution *Salmonella* biomapping to reveal longitudinal serotype dynamics in pre-harvest cattle and their environments. National Cattlemens Beef Association, \$69,517.00 (10%, \$6,951.70)

2021

Total: \$292,000.00

1. Markus F. Miller, Alejandro Echeverry, Dale Woerner, Marcos Sanchez-Plata. Cross-Sectional Study and Risk Assessment Mapping of Salmonella in Pork Lymph Nodes at Harvest. Foundation for Meat and Poultry Research and Education, \$125,000.00 (20%, \$25,000.00)
2. **Echeverry, Alejandro**, Marcos X. Sanchez-Plata, Mark F. Miller. Antibiotic Resistance Surveillance in Retail Food Specimens in Texas and Oklahoma, 2020-2025. U.S. Department of Health & Human Services. \$167,000 (70%, \$116,900). *Part of a renewable award for a total of \$999,954 over a 5-year period.*

Pending:

Total pending: \$10,655,919.00

Own Portion: \$813,235.84

1. **Alejandro Echeverry**, Marcos Sanchez Plata, Mark F. Miller. Genotypical Analysis of *Salmonella* Isolated from Beef Cattle fed conventional diets supplemented with L28 with and without subtherapeutic antibiotics. 2021. Foundation for meat and poultry research and education (FMPRE). \$80,438300 (33%, \$26,544.54)
2. Marcos Sanchez Plata, **Alejandro Echeverry**. Statistical Process Control Methodologies to Demonstrate Microbial Control in Pork and Poultry Processing Operations Implementing the New Inspection Systems (NSIS-NPIS) and Increasing Line Speeds. 2021. Foundation for meat and poultry Research and education (FMPRE). \$98,157.00 (20%, \$19631.40)
3. Marcos Sanchez Plata, **Alejandro Echeverry**. Real-Time PCR Salmonella Quantification Method Verification in Ground Beef, Beef Trim, and Raw Beef Sampling Methods. 2021. Foundation for meat and poultry Research and education (FMPRE). \$165,764.00 (10%, \$16,576.40)
4. Mark F Miller, **Alejandro Echeverry**, Jerrad Legako, Marcos Sanchez-Plata, Dale R Woerner. Food Safety, Quality and Shelf-life of Meat treated with Microwaves Generated by the Gyrotron Technology Company. 2021. Australian Meat Processor Corporation. \$249,150.00 (14%, \$34,881.00).
5. Naima Moustaid-Moussa, Simpson, Catherine Ross; Singh, Sukhbir; Amanda Brown, **Alejandro Echeverry**, Oak-Hee Park, Yujiao, Zu; Leslie Thompson, Marcos X Sanchez Plata; Carlos Carpio, Sunghum Lim. GRow and EAT Leafy GREENS (GREAT GREENS): Sustainable Production of Leafy Greens for Health and Food Safety. 2021. United States Department of Agriculture. \$10,000,000.00 (7%, \$700,000.00)
6. Mark F Miller, Mindy M Brashears, **Alejandro Echeverry**, Marcos Sanchez-Plata. Identification of actionable sentinels for *Salmonella* contamination of

lymph nodes and quantifying the efficacy of removing peripheral lymph nodes.
2021. National Cattlemen's Beef Association.\$62,410.00 (25%, \$15602.5)

Rejected: (§ Indicates Principal Investigator/Principal Director)

Total not funded: \$51,867,916.50

Own portion not funded: \$5,384,465.80

2007

Total: \$50,000

1. **Alejandro Echeverry**, and Mindy M. Brashears§. Multi-hurdle intervention strategies to assure the microbial food safety and quality of Fruits and Vegetables. National Research Initiative Competitive Grants Program (NRICGP), United States Department of Agriculture. \$50,000.00 (\$0.00, Ph.D Student).
2. M. X. Sánchez-Plata§, J. C. Grunlan, M. M. Brashears, and **A. Echeverry**. Development of Viscous Antimicrobial Interventions to Enhance Pathogen Inactivation And Shelf-Life Extension In Poultry Processing. American Meat Institute Foundation (AMIF).

2008

Total: \$95,000

1. **Alejandro Echeverry**, Dr. Mindy M. Brashears, Dr. Pawan Takhar, and Dr Chance Brooks§. American Meat Institute Foundation (AMIF). An integrated approach on the effects of cumulative cooking temperatures on the safety of mechanically tenderized beef steaks and hamburger patties. \$95,000.00 (\$4,750.00).

2009

Total: \$175,000

1. M. M. Brashears§, T. Brashears, M. Miller, J. C. Brooks, **Alejandro Echeverry**, and G. H. Loneragan. Development and Evaluation of Educational Tools to Foster a Comprehensive Food Safety Culture in Small and Very Small Beef Processing Plants. National Research Initiative Competitive Grants Program (NRICGP), Division of Nutrition, Food Safety and Health, United States Department of Agriculture. \$100,000.00 (\$5,000.00).
2. **Alejandro Echeverry**, Mindy M. Brashears§. Use of Directional Microwaves to Control *Salmonella* post-processing in Peanut Butter. ILSI North America Technical Committee on Food Microbiology. \$75,000.00 (\$15,000.00).

2010

Total: \$240,000.00

1. J. C. Brooks§, Mindy M. Brashears, A. Laury, and **A. Echeverry**. Survivability of *E. coli* O157:H7 and non-O157 STEC (O26, O111, and O145) in Mechanical Tenderized Beef Steaks after Lactic Acid treatments and Cooking Managed under Simulated Industry Conditions. American Meat Institute. \$95,000.00 (\$9,500.00).
2. J. C. Brooks§, Mindy M. Brashears, A. Laury, and **A. Echeverry**. Survivability of *E. coli* O157:H7 and non-O157 STEC (O26, O111, and O145) in Mechanical Tenderized Beef Managed under Simulated Industry Conditions after treatment with Lactic Acid. American Meat Institute. \$80,000.00 (\$8,000.00).
3. **Alejandro Echeverry**, M. M. Brashears§. Use of Directional Microwaves to Control *Salmonella* post-processing in Peanut Butter. Texas Peanut Producers Board (TPPB). \$65,000.00 (\$19,500.00).

2011

Total: \$1,235,000.00

1. Mindy Brashears§, **Alejandro Echeverry**, Guy H Loneragan, Mark F Miller. Establishment of a Non-O157 Shiga-toxin Producing *E. coli* (STEC) Baseline. National Cattlemens Beef Association. \$40,000.00 (\$10,000.00)
2. Mindy Brashears§, Todd Brashears, Guy H. Loneragan, Markus F. Miller, Kevin R. Pond, Ryan Rathmann, **Alejandro Echeverry**. Overcoming barriers to implementation of pre-harvest food safety practices in beef production systems. United States Department of Agriculture – National Institute of Food and Agriculture (USDA-NIFA). \$595,000.00 (\$29,750.00).
3. Mindy Brashears§, Chance Brooks, Todd Brashears, Markus F. Miller, Guy H. Loneragan, Kendra Knightingale, **Alejandro Echeverry**. Building a collaborative network for optimization and validation of methodologies and interventions to reduce shiga toxin producing *Escherichia coli* (STEC) in the food supply. United States Department of Agriculture – National Institute of Food and Agriculture (USDA-NIFA). \$600,000.00 (\$30,000.00).

2012

Total: \$574,143.00

1. **Alejandro Echeverry**, Mindy M. Brashears§, J. Chance Brooks, Lacey Guillen, Jennifer Martin. Determination of D-values and heat susceptibility of STECs in ground beef. American Meat Institute Foundation. \$66,720.00 (\$3,336.00).
2. Mindy M. Brashears§, Chance Brooks, **Alejandro Echeverry**, Lacey Guillen, Qingli Zhang, Jennifer Martin. Post-harvest treatment of pork trim to reduce the prevalence of *Salmonella* including multi-drug resistant *Salmonella*. American Meat Institute Foundation. \$75,000.00 (\$3,750.00).
3. J Chance Brooks§, Mindy M. Brashears, **Alejandro Echeverry**, Jennifer N. Martin. Factors influencing thermal resistance of shiga-toxin producing

Escherichia coli in mechanically tenderized beef steaks. American Meat Institute Foundation.. \$65,348.00 (\$3,267.40).

4. J Chance Brooks§, Mindy M. Brashears, **Alejandro Echeverry**, Jennifer N. Martin. Migration and survivability of non-O157 STEC in marinated beef. American Meat Institute Foundation. \$55,000.00 (\$2,750.00).
5. Mindy M. Brashears§, J. Chance Brooks, **Alejandro Echeverry**, Lacey Guillen, Jennifer N. Martin. The use of common beef post-harvest interventions to reduce *Salmonella* and multi-drug resistant *Salmonella* on pork carcasses. American Meat Institute Foundation. \$50,000.00 (\$2,500.00).
6. Mindy Brashears§, **Alejandro Echeverry**, Guy H Loneragan, Mark F Miller, Kendra Nightingale. Pathogen Baselines in Beef, Pork and Poultry Processing Systems in the United States. International Life Sciences Institute (ILSI) North America. \$197,075.000 (\$29,561.25).
7. Chance Brooks§, Mindy Brashears, **Alejandro Echeverry**. Physical Factors Influencing Thermal Resistance of Shiga-toxin Producing *E. coli* in Mechanically Tenderized Beef. \$65,000.00 (\$16,250.00).

2013

Total: \$767,936.40

1. Mindy M. Brashears§, Guy H. Loneragan, **Alejandro Echeverry**, Kendra Nightingale, Patrice Arbault, Alexandra Calle. Phenotypic characterization of Shiga toxin producing *Escherichia coli* (STEC) for the development of differential assays for detection and enumeration in beef. American Meat Institute Foundation. \$65,000.00 (\$3,250.00).
2. Mindy M. Brashears§, Chance J Brooks, **Alejandro Echeverry**, Lacey M. Guillen. Mitigating the Internalization of Shiga-toxin Producing *Escherichia coli* in Marinated Beef. American Meat Institute Foundation. \$87,763.40 (\$21,940.85).
3. Mindy M. Brashears§, **Alejandro Echeverry**, Alexandra Calle. Control of Shiga toxin producing *Escherichia coli* O157 and non-O157 from carcass contact surfaces during slaughtering process. American Meat Institute Foundation. \$55,000.00 (\$8,250.00).
4. Mindy M Brashears§, **Alejandro Echeverry**, Lacey M. Guillen. White Paper on Human Illness Caused by Campylobacter from All Food and Non-food Sources. American Meat Institute Foundation. \$13,000.00 (\$2,600.00).
5. Mindy Brashears§, **Alejandro Echeverry**, Lacey Guillen, Guy H. Loneragan, Kendra K. Nightingale. Meaningful Improvements in Microbial Methods to Detect, Isolate, Differentiate and Identify among Non-O157 Shiga Toxin-Producing *Escherichia coli* (STEC) in Pre-Harvest Cattle Samples (Fecal and Hide). National Beef Cattlemen's Association (NCBA). \$84,800.000 (\$12,720.00).

6. Chance Brooks§, Mindy Brashears, **Alejandro Echeverry**. Determination and Mitigation of MDR and non-MDR *Salmonella* Migration in Marinated Beef. American Meat Institute Foundation. \$55,000.00 (\$13,750.00).
7. Todd Brashears§, Matthew Baker, Mindy Brashears, **Alejandro Echeverry**, Lacey Guillen, Guy Loneragan, Summer Loneragan, Cynthia McKenney, Mark F Miller, Kendra Nightingale, Sara Trojan. Advancement of Agricultural Education and Training to Address Domestic and International Needs for Sustainability of Safe Food and Animal Production. United States Department of Agriculture. \$262,500.00 (\$23,625.00).
8. Mindy Brashears§, **Alejandro Echeverry**, Lacey Guillen, Guy H. Loneragan, Kendra K. Nightingale. Environmental Mitigation of *Escherichia coli* O157:H7, Non-O157 Shiga-Toxigenic *E. coli* (STEC) and *Salmonella* with *Lactobacillus acidophilus* NP51 in Feedlot Environments. National Beef Cattlemen's Association. \$61,088.00 (\$9,163.20).
9. Mindy Brashears§, Chance Brooks, **Alejandro Echeverry**, Lacey Guillen, Qingli Zhang. Post-harvest treatment of pork trim to reduce the prevalence of *Salmonella* including multi-drug resistant *Salmonella*. American Meat Institute Foundation. \$83,785.00 (\$20,946.25).

2014

Total: \$20,613,918.00

1. Andreas A Neuber§, Mankowski JJ, Dickens JC, Mindy Brashears, Brooks JC, **Echeverry Alejandro**, Todd Brashears. Pulsed Power for Pathogen Reduction and Quality/Nutrition Preservations in High Risk Foods. United States Department of Agriculture. \$4,983,474.00 5-year grant (\$398,677.92).
2. Brooks, Tiffanie Alece, Sara Jane Trojan, Todd Brashears, Mindy Brashears§, Marie Bugarel, **Alejandro Echeverry**, Mark F. Miller, Guy Loneragan, Kendra K. Nightingale. Mitigation of Risks of Antimicrobial Drug Resistance (AMR) in Microorganisms from Imported Animal Products Originating from Latin America. United States Department of Agriculture. \$2,243,033.00, 5-year grant (\$112,151.65).
3. Mindy Brashears§, Chance Brooks, Marie Bugarel, Kendra Knightingale, **Alejandro Echeverry**, Lacey Guillen, Amy R. Parks. Intervention Strategies in Vacuum Marinated Beef Products to Control Surface Attachment and Internalization of *Salmonella Typhimurium*. American Meat Institute Foundation. \$66,800.00 (\$6,680.00).
4. Mindy Brashears§, Chance Brooks, **Alejandro Echeverry**, Guy Loneragan, Kendra Nightingale. The influence of meat characteristics and exposure to sublethal stress during processing on stress response and virulence factors in selected *Escherichia coli* serogroups. \$70,000.00 (\$10,500.00).

5. Amy Boren Alpizar, Michel T. Brashears§, Mindy M Brashears, Carlos Carpio, **Alejandro Echeverry**, Samuel Jackson, Mark F, Miller, Debra Reed, Marcos X. Sanchez Plata, Sara Trojan, David C. Weindorf. SOWING HOPE Increasing Agricultural Productivity and Efficiency in Haiti. United States Agency for International Development. \$13,250,611.00 5-year grant (\$1,325,061.10).

2015

Total: \$13,675,572.00

1. M. Todd Brashears, Mindy M. Brashears, Alexandra Calle, **Alejandro Echeverry**, Kendra Nightingale, Marcos X. Sanchez Plata§. Establishment of the South Regional Food Safety Training, Education, Outreach, Technical Assistance and Extension Center. United States Department of Agriculture. \$1,148,607.00 2-year grant (\$57,430.35).
2. Amy Boren Alpizar, Michel T. Brashears, Mindy M Brashears§, Carlos Carpio, Henk Den Bakker, **Alejandro Echeverry**, Samuel Jackson, Mark F, Miller, Guy Loneragan, Kendra Nightingale. Mitigation of Livestock Herd Loss And Threats To Food Security In The U.S. Through the Enhancement Of Sustainable Cattle Feeding Systems. USDA-NIFA Cooperative State Research Education & Extension Service. \$3,995,106.00 4-year grant (\$199,755.30).
3. Mindy Brashears, Chance Brooks§, **Alejandro Echeverry**, Guy Loneragan, Kendra Nightingale. Do meat processing parameters and physicochemical properties influence the expression of stress-associated and virulence genes in selected *Escherichia coli* serogroups? North American Meat Institute. \$19,010.00 (\$3,802.00).
4. Amy Boren Alpizar, Michel T. Brashears, Mindy M Brashears, Alexandra Calle, Carlos Carpio, **Alejandro Echeverry**, Mark F, Miller, Guy Loneragan, Kendra Nightingale, Marcos Sanchez§, Leslie Thompson. Assessment of Barbados' Primary Industries in Relation to Determining its Status on the Application of Food Safety Standards and to Develop the Required Protocols and Food Quality Assurance Systems for Implementation. Government of Barbados. \$743,972.00 (\$74,397.20).
5. Amy Boren§, Todd Brashears, Mindy Brashears, **Alejandro Echeverry**, Mark Miller, Kendra Nightingale. Developing a Generation of Agricultural Change Agents in the Battles for Food Security through Capacity Building. United States Department of Agriculture. \$749,994.00 3-year grant (\$74,999.40).
6. Amy Boren Alpizar, Michel T. Brashears, Mindy M Brashears, Tiffanie Brooks, **Alejandro Echeverry**, Guy Loneragan, Mark F, Miller, Kendra Nightingale, Marcos X. Sanchez Plata§, Sara Trojan. Food for Progress in the DR - Dominican Republic Innovation, Value-addition and Exports, Enhancing the Dairy, Produce and Meat Value Chains. Inter American Institute for Cooperation on Agriculture. \$7,018,883.00 5-year grant (\$701,888.30).

2016

Total: \$523,026.00

1. Mindy Brashears§, **Alejandro Echeverry**, Mark Miller. Prevalence of antibiotic resistant *Salmonella*, *Campylobacter* and Indicator Organisms (Generic *E. coli*) in organic and conventional ground beef purchased in Texas. Texas Beef Council. \$47,000.00 (\$11,750.00).
2. Todd Brashears, Mindy Brashears§, **Alejandro Echeverry**, Mark F. Miller. Evaluation of Direct-Fed-Microbials for the Mitigation of Antimicrobial Drug Resistance in Beef Cattle Production System. USDA. \$335,843.00 (\$50,376.45).
3. Marcos X. Sanchez Plata§, **Alejandro Echeverry**, Alexandra Calle. Technical assistance to support implementation of food safety programs for FSMA compliance in Central American Value chains. USDA Foreign Agricultural Service. \$140,183.00 (\$42,054.90).

2017

Total: \$1,900,242.00

1. Huaiqiong Chen§, **Alejandro Echeverry**, Mindy Brashears. Enhancing meat safety and quality through food grade microemulsions having high capacity of dissolving multiple essential oils. United States Department of Agriculture. \$499,176.00; 3-year grant (\$149,752.80).
2. **Alejandro Echeverry**§. Capacity Building to strengthen food safety research: Acquisition of anaerobic chamber to characterize and mitigate *Clostridium difficile* in animal food products. Agriculture and Food Research Initiative Competitive Grant Program. USDA-NIFA. \$225,000.00 (\$225,000.00).
3. Amy Boren, Todd Brashears, Mindy Brashears, Alexandra Calle, Carlos Carpio, **Alejandro Echeverry**, Marcos Sanchez§, Leslie Thompson. Establishment of The FSMA Academy. A State-Level Model for Food Safety Training, Education, Extension, Outreach and Technical Assistance. United States Department of Agriculture. \$399,575.00, 2-year grant (\$19,978.75).
4. Mindy Brashears§, Mark F Miller, **Alejandro Echeverry**, Jhones Sarturi. A growth performance and efficiency comparison of beef feedlot steers fed a direct-fed microbial and the industry standard, subtherapeutic antibiotic. Foundation for Meat and Poultry Research and Education. \$229,269.00 (\$57,317.25).
5. Mindy Brashears§, **Alejandro Echeverry**. Investigation of Commercially Available Bacteriophage Treatments on Meat Products for the Reduction of Shiga Toxin-Producing *Escherichia coli* (STEC). Foundation for Meat and Poultry Research and Education. \$99,222.00 (\$49,611.00).
6. **Alejandro Echeverry**§, Mindy Brashears, Mark F. Miller, Alexandra Calle. Evaluating the application of approved antimicrobial interventions for the

- reduction of *Salmonella* and Shiga toxin-producing *E. coli* (STEC) to improve the safety of fresh, hot pork products. National Pork Board. \$95,000.00 (\$57,000.00).
7. **Alejandro Echeverry**§, Mindy Brashears, Mark F. Miller, Alexandra Calle. Evaluating the application of approved antimicrobial interventions for the reduction of *Salmonella* and Shiga toxin-producing *E. coli* (STEC) to improve the safety of chilled pork products. National Pork Board. \$95,000.00 (\$57,000.00).
 8. **Alejandro Echeverry**§, Mindy Brashears, Mark F. Miller, Nelson Huerta. Evaluation of the efficacy of approved antimicrobial interventions to control Shiga toxin-producing *E. coli* (STEC) and *Salmonella* in chilled variety meats destined for national and international markets. National Pork Board. \$88,000.00 (\$52,800.00).
 9. Alexandra Calle§, Mindy Brashears, Mark F. Miller, **Alejandro Echeverry**. High pressure, low volume water washes to treat cattle hides presented for slaughter in small and medium size beef harvest operations. National Pork Board. \$100,000.00 (\$15,000.00).
 10. Mindy Brashears§, Mark F. Miller, **Alejandro Echeverry**. Validation of Efficacy of Interventions to reduce STEC and *Salmonella* on pork head and cheek meat and the impact on sensory properties. National Pork Board. \$70,000.00 (\$14,000.00).

2018

Total: \$10,958,482.00

1. **Alejandro Echeverry**§, Mindy Brashears, Mark F Miller, Thu Dinh. Evaluating the effectiveness of electrostatic spray technology to decontaminate beef from *E. coli* O157:H7 and Shiga-toxigenic *Escherichia coli* (STEC) using a calf carcass model. Texas Beef Council. \$42,638.10 (\$26,862.00).
2. **Alejandro Echeverry**§, Mindy Brashears, Mark F Miller. Reexamining a known technology: Evaluating the effectiveness of freezing as a post-harvest, post-package intervention to decontaminate beef products from *E. coli* O157:H7, Shiga-toxigenic *Escherichia coli* (STEC) and *Salmonella*. Texas Beef Council. \$50,000.00 (\$31,500.00).
3. Alexandra Calle§, Carlos Carpio, **Alejandro Echeverry**, Jaime Malaga, Marcos Sanchez, Leslie Thompson. OIA Cochran Fellowship: SPS & TBT Notification and Food Safety Regulation for Colombia. USDA Foreign Agricultural Service OCBD. \$59,100.00 (\$2,955.00).
4. **Alejandro Echeverry**§, Mindy Brashears, Marcos X. Sanchez Plata. Evaluation of the Effect of Variable Relative Humidity Levels and Time/ Temperature Cooking Procedures Used in the Production of RTE poultry products Needed to Achieve Lethality (Appendix A) Performance Standards. Foundation for Meat and Poultry Research and Education. \$70,400.00 (\$42,240.00).

5. Todd Brashears, Mindy Brashears§, **Alejandro Echeverry**, Samuel Jackson, Mark Miller. OIA Continuation: building capacity in the Honduran Cattle, Sheep and goat industries through investment in research and education. \$350,000.00 (\$52,500.00).
6. Naima Moustaid-Moussa§, Leslie Thompson, **Alejandro Echeverry**, Marcos X. Sanchez, Amanda Brown, Carlos Carpio, Sukhbir Singh, Mary Murimi, Jaehoon Lee, Noureddine Abidi, Rupinder Saini, Oak Hee Park, Latha Ramalingam, Jaehoon Lee, et. al. GRow and EAT Leafy GREENS (GREAT GREENS): Sustainable Production of Leafy Greens for Health and Food Safety. United States Department of Agriculture. \$10,000,000.00 – 5-year grant (\$700,000.00).
7. **Alejandro Echeverry**§, Mindy M Brashears. Evaluating gyrotron-generated microwave irradiation as decontamination intervention of fresh beef and impact on quality and shelf life parameters. Gyrotron Technologies Inc. and Meat & Livestock Australia. \$99,982.00 (\$49,991.00).
8. Alexandra Calle§, Jerrad Legako, Jonathan Thompson, **Alejandro Echeverry**. Evaluation of buffered vinegar as an intervention for pathogen control in trim and ground pork, and its effects on microbial shelf life and product quality. National Pork Board. \$80,000.00 (\$12,000.00).
9. **Alejandro Echeverry**§, Alexandra Calle, Mark F Miller. Evaluation of approved antimicrobial interventions to control Shiga toxin-producing *E. coli* (STEC) and *Salmonella* in edible variety meats used in ground products. Foundation for Meat and Poultry Research. \$84,000.00 (\$50,400.00).
10. **Alejandro Echeverry**§, Kendra Nightingale, Marcos X. Sanchez-Plata, David Campos. Electrostatically-applied Lactic Acid Bacteria as a biocontrol intervention to reduce *Listeria monocytogenes* biofilm formation on Food Contact Surfaces. National Dairy Council. \$85,000.00 (\$42,500.00).
11. Marcos X. Sanchez-Plata§, **Alejandro Echeverry**. Evaluation of the Effect of Variable Relative Humidity Levels and Time/ Temperature Cooking Procedures Used in the Production of NRTE and RTE poultry products Needed to Achieve Lethality (Appendix A) Performance Standards. US Poultry and Egg Association. \$80,000.00 (\$32,000.00).

2019

Total: \$873,272.00

1. **Alejandro Echeverry**§, Mark F Miller, Dale Woerner, Jerrad Legako. Evaluation of antimicrobial interventions to improve the safety of edible variety meats incorporated into ground beef. Foundation for Meat and Poultry Education. \$84,000.00 (\$33,600.00).
2. **Alejandro Echeverry**§. Evaluation of electrostatic spray technology to decontaminate beef from *E. Coli* O157:H7 and shiga toxigenic *Escherichia coli* (STEC) using a calf carcass model. Texas Beef Council. \$44,385.00 (\$44,385.00)

3. Mark F Miller§, **Alejandro Echeverry**, Marcos X Sanchez-Plata. Validation of Different Lactic Acid Spray and Immersion Formulations as Antimicrobial Interventions for Beef Subprimals and Trim in a Beef Processing Environment. \$149,821.00 (\$49,440.93).
4. Mark F Miller§, **Alejandro Echeverry**, Marcos X Sanchez-Plata, Jhones Sarturi. Continuing an integrated vision for a progressive livestock and meat industry in Honduras. Honduras Minister of Economic Development. \$593,566.00 (\$118,713.20).
5. **Alejandro Echeverry**§. Request for funding support to meet with the priority contacts for the “Food Safety and Defense” program area within the Foundational and Applied Science Program prior to submission of a conference grant to the National Institute of Food and Agriculture. Internal Competitive Travel Grant Application, College of Agricultural Sciences and Natural Resources, Texas Tech University. \$1,500.00 (\$1,500.00).

2020

Total: \$1,606,582.00

1. **Alejandro Echeverry**§, Tommy Wheeler, Deidrea Mabry. A conference grant to support the ‘Science and Innovation symposium Meat Safety Session’ at the 2020 International Congress of Meat Science and Technology, August 2- 7, 2020, Orlando FL. Agriculture and Food Research Initiative Competitive Grants Program, USDA. \$29,000.00 (50%, 14,500).
2. Chance Brooks§, Dale Woerner, Marcos X. Sanchez-Plata, **Alejandro Echeverry**, Jerrad Legako. Characterizing the tenderness of multiple muscles, using Rapid Evaporative Ionization Mass Spectrometry (REIMS) as a novel, minimally invasive, real time instrument. Foundation for Meat and Poultry Research and Education. \$64,687.00 (\$3,234.35)
3. **Echeverry, A§.**, M.F. Miller, D.R. Woerner, and J.F. Legako. 2020. Evaluation of antimicrobial interventions to improve the safety of edible variety meats incorporated into ground beef. Foundation for Meat & Poultry Research & Education. \$84,000.
4. Mark F. Miller, **Alejandro Echeverry**, Marcos X. Sanchez Plata, Christy L. Bratcher, Steven M. Presley, Cynthia Vanessa Reinoso Webb. 2020. Fate, Persistence and Mapping the Viral Transmission Risk Patterns of the SARS-Co V-2 in Meat and Poultry Processing Facilities. USDA-NIFA Cooperative State Research Education and Extension Service. \$1,000,000.00 (5%, \$50,000).
5. Mark F. Miller§, Dale R. Woerner, Kristin E. Hales-Paxton, **Alejandro Echeverry**. 2020. Cross Sectional Study and Risk Mapping Assessment of *Salmonella* in Beef Cattle Lymph Nodes using L28 as a Direct Fed Microbial. NCBA. \$144,640.00.

6. **Alejandro Echeverry**§, Mark F. Miller, Dale R. Woerner. 2020. Improving the safety of raw ground beef components and manufacturing trimmings. Foundation for Meat and Poultry Research & Education. \$97,096.00.
7. **Alejandro Echeverry**§, Dale R. Woerner, Marcos Sanchez. 2020. Evaluation of optimal areas of photohydroionization (PHI) application, a potential trim intervention against pathogens during production of ground beef. Foundation for Meat and Poultry Research & Education. \$92,000.00.
8. Mark F. Miller§, **Alejandro Echeverry**, Marcos Sanchez. 2020. The Effect of Spraying and Immersion of Lactic Acid Intervention on Beef Trimmings in a Beef Processing Plant. Foundation for Meat and Poultry Research & Education. \$95,159.00

Cash and Gifts-in-Kind:

Funded Travel Grants. Total: \$32,807.99

2011

1. Alejandro Echeverry. Ante Mortem and Post Mortem Inspection & HACCP training for the Official Honduran Meat Inspectors. SENASA, Honduras. \$2,300.00

2013

1. Alejandro Echeverry Need assesment of Bahamian agriculture. InterAmerican Institute for Cooperation in Agriculture (IICA). 2013. \$2,704.90
2. Alejandro Echeverry Application awareness program for reduction of pathogens and control of pollutants in meat products in Colombia. Productive Transformation Program (PTP) of the Colombian Ministry of Commerce, Industry and Tourism. 2013. \$2,788.19
3. Alejandro Echeverry. Official Nicaraguan Meat Inspectors training in HACCP. Interamerican Institute for Cooperation in Agriculture (IICA). \$3,284.00
4. Alejandro Echeverry. Official Panamanian Meat Inspectors training in HACCP. Interamerican Institute for Cooperation in Agriculture (IICA). \$1,631.60
5. Alejandro Echeverry. Official Dominican Republic Meat Inspectors training in HACCP. Interamerican Institute for Cooperation in Agriculture (IICA). \$1,700.00
6. Alejandro Echeverry. HACCP Workshop for the Honduran Shrimp Industry. Granjas Marinas - Honduras. \$2,575.00.

2014

1. Alejandro Echeverry Advanced HACCP and Validation for the Meat Industry - The Food Consortium Colombia (TFCCSA). 2014. \$2,800.00
2. Alejandro Echeverry Introduction to HACCP Workshop for the Costa Rican Beef Industry. Department of Agriculture (MAG). 2014. \$3,200.00

3. Alejandro Echeverry Introduction to HACCP Workshop for the Bahamian Ministry of Agriculture – Bahamas Agricultural Industrial Corporation (BAIC). 2014. \$2,704.00.

2015

1. Alejandro Echeverry Risk Assessment for poultry production. FENAVI, Colombia. 2015. \$2,350.00.
2. Alejandro Echeverry. Sanitation Standard Operating Procedure Workshop for Inspectors, Colombian National Food and Drug Surveillance Institute (INVIMA) & The Food Consortium. 2015. \$3,120.00.

2019

1. Alejandro Echeverry. VI Internacional Agri-Foods Symposium. Universidad de Córdoba (Colombia). 2019. \$1,650.30.

Microbial Testing, Antimicrobial Susceptibility Testing (AST), and Laboratory Services to the Industry. Total: \$120,440.55

2018

1. **Diamond V.** Microbial testing and AST services. \$25,142.00
2. **MicroZap.** Microbial testing and laboratory services. \$2,000.00
3. **Passport Food Safety / Dwight & Church.** Microbial testing and laboratory services. \$44,080.00.

2019

1. **MicroZap.** Microbial testing and laboratory services. \$900.00
2. **Probicon.** Microbial testing and laboratory services. \$1,650.00
3. **WAP.** Microbial testing and AST. \$4,447.00
4. **Valley Meats.** Microbial testing and laboratory services. \$10,320.00
5. **Passport Food Safety / Dwight & Church.** Microbial testing and laboratory services. \$26,511.55.

2020

1. **MicroZap.** Microbial testing and laboratory service. \$4,365.00

2021

1. **MicroZap.** Microbial testing and laboratory service. \$1,025.00

SERVICE TO PROFESSIONAL ORGANIZATIONS

International:

1. 2008- Present. Reviewer, Journal of Food Protection of the International Association for Food Protection.
2. 2009-2013. Reviewer, Meat Science Journal (Amsterdam, The Netherlands)

3. 2010-present. Participation in the following IAFP's Professional Development Groups (PDG):
 - a. Applied and Laboratory Methods PDG.
 - b. Developing Food Safety Professionals PDG.
 - c. Food Defense PDG.
 - d. Food Hygiene and Sanitation PDG.
 - e. Food Law PDG.
 - f. Food Safety Assessment, Audit and Inspection PDG.
 - g. HACCP Utilization and Food Safety Systems PDG.
 - h. International Food Protection Issues PDG.
 - i. Meat and Poultry Safety and Quality PDG.
 - j. Microbial Modelling and Risk Analysis PDG.
 - k. Pre-Harvest Food Safety PDG.
 - l. Sanitary Equipment and Facility Design PDG.
 - m. Seafood Safety and Quality PDG.
4. International Association for Food Protection (IAFP) Mentoring Program: Makala Bach (Wisconsin), 2017.
5. International Association for Food Protection (IAFP) Mentoring Program: Carla Luisa Schwan (Brazil), 2018.
6. Reciprocal Meats Conference & International Congress of Meat Science and Technology (RMC/ICoMST) Planning Committee, Orlando, FL, 2019-2020. American Meat Science Association – Subcommittee to write food safety grant to bring Kendra Waldbusser and Dr. John Schmidt as speakers on Antimicrobial Resistance to RMC/ICoMST, 2020.

National:

1. 2020-Present: Reviewer for the Microbial Biology Panel for the National Sciences Foundation Graduate Research Fellowship Program (NSF-GRSP) Competition
2. 2014 - 2018: Editorial Board | Food Protection Trends
3. 2015-2017. Management Committee, Food Protection Trends.
4. 2008- Present: Reviewer, Journal of Food Science - Food Microbiology
5. 2010-present. Membership and participation in the following IFT's divisions:
 - a. Food Engineering Division
 - b. Food Laws & Regulations Division
 - c. Food Microbiology Division
 - d. International Division
 - e. Muscle Foods Division
 - f. Quality Management Division
 - g. Refrigerated & Frozen Foods Division

6. Meat Science Journal Committee (2009-2015)
7. Reviewer for Applied and Environmental Microbiology, ASM (2017)
8. Meat & Muscle Biology, reviewer. (2018-Present)
9. American Meat Science Association Distinguished Teaching Award Selection Committee, 2015.
10. American Meat Science Association Distinguished Teaching Award Selection Committee, 2016.
11. Scientific Reviewer for the National Pork Board Pork Quality, Pork Safety, and Human Nutrition Committee 2019 Spring Call RFP.

Regional:

1. Future Farmers of America Food Science Event Career Development Contest (Judge Product Development). Texas Tech University. 2003-2015, 2017-Present.

State:

1. 2008. Future Farmers of America Convention Judge (Corpus Christi, TX)
2. 2010. Future Farmers of America Convention Judge (Corpus Christi, TX)
3. 2012. Future Farmers of America Convention Judge (Corpus Christi, TX)
4. 2013. Future Farmers of America Convention Judge (Dallas, TX)
5. 2014. Future Farmers of America Convention Judge (Fort Worth, TX)
6. 2018. Future Farmers of America Convention Judge (Fort Worth, TX)

CONSULTING ACTIVITIES

1. Consultant on food safety issues, *Salmonella* testing, HACCP, CCPs, Biosecurity measures and Implementation, and food processing auditing for the largest shrimp production and processing facility in the Western Hemisphere. **Empacadora San Lorenzo, Grupo Granjas Marinas SA.** De CV. Honduras, 2013-2016 (*paid*).
2. Consultant on food safety issues, food science, food processing, food technology, FSIS regulatory requirements, *E. coli* O157:H7 and *Salmonella* sampling and testing, CFR Title 9, process validation and Team Member for the plaintiff's Food Safety Expert Star Witness in First Judicial Circuit Court of South Dakota, Civ. No. 12. **Winston & Strawn LLP. Beef Products Inc. Technology.** v. ABC News et al. 2014-2017 (*litigation, paid*). This case is considered **the largest and most significant defamation cases in the United States** and represented a historic win for the beef processor, whose product, Lean Finely Texture Beef (LFTB) was falsely described with the disparaging and derogatory "*pink slime*" term and falsely reported as unsafe for consumption. Involvement in the case for more than 4 years / +1300 hours. Hired by plaintiffs – Winston & Strawn LLP.

3. Expert witness for **Sheehy, Ware & Pappas**, P.C. Cause No. 2016-13315, 215th District Court, Harris County, Texas. Kenny Jackson v. East Buffet. 2016 (*litigation, paid*). Hired by the defendants – Sheehy, Ware & Pappas, P.C).
4. Food Safety Consultant for **Weinberg Wheeler Hudgins Gunn & Dial**. Turnipseed v. **JBS**. 2018-2019 (*litigation, paid*). Hired by the defendants – Weinberg Wheeler Hudgins Gunn & Dial.
5. Consultant on Food Safety issues, food science, food production, FSIS regulatory and microbial requirements and testing for meat products for Winston & Strawn LLP. CMBG Advisors, Inc. v. **Teys USA Inc**. 2019 (*litigation, paid*). Hired by defendants – Winston & Strawn LLP.

SERVICE TO

UNIVERSITY:

1. Participated as the only member of the Animal and Food Science Department in identifying research areas under the Faculty Institutional Recruitment for Sustainable Transformation (NIH-FIRST) to recruit diverse faculty with emphasis on One-Health initiative, and organized and headed by Dr. Joseph Heppert at the OVPR. Efforts culminated with a NIH C06 Proposal titled “*TTU Auxiliary Biomedical Shared Resource Facility*” submitted to NIH. Texas Tech University, 2020-2021.
2. Texas Tech University Undergraduate Research Competition judge. Center for Active Learning and Undergraduate Engagement (CALUE). 2013-Present
3. Texas Tech University Graduate Student Poster Competition judge. 2014-2016.
4. Child Development Research Center (CDRC) Support Committee, Texas Tech University. 2018-Present.

COLLEGE:

1. Update session on food safety initiatives and research opportunities for the 2019 Mandela Washington Fellowship for Young African Leaders Cohort. U.S. Department of State. Conducted in conjunction with Darren Hudson (AAE).
2. College of Agricultural Sciences and Natural Resources. CASNR Safety Committee 2020-Present.

DEPARTMENT:

1. 2002 – 2014. Food Science Club Advisor.
2. Bob Albin Graduate Student Poster Competition Judge, Texas Tech University, 2009-Present.
3. Ad Hoc Master’s committee. Cassandra Chancey. M.S. 2010. “*Survivability of E. coli O157:H7 in Needle Tenderized Beef Steaks during Lactic Acid Application and Cooking*”.

4. Nomination Package for Dr. Guy H. Loneragan to the National Advisory Committee on Microbiological Criteria for Foods (NSCMCF). 2010
5. Ad Hoc Master's committee member. Ashely Hartzog-Hawkins, M.S. 2012
“Organizational climate and food safety training change employee behaviors and pathogen loads in non-TIF beef packing plants in México”.
6. Nomination Package for Dr. Mindy M. Brashears to the 2012 American Meat Science Association Extension and Service Award.
7. Ad-hoc Evaluator for Anna Van Stelten Doctoral qualifying exam, August 2013. “
8. Dean Representative. Ansen R. Pond Ph.D defense (October 16, 2013): *Reduction of Escherichia coli and non-O157 O groups in the feces of commercial and research feedlot cattle using a high dose of NP51, a Lactobacillus based pre harvest intervention.*
9. Dean Representative. Jennifer Martin – Ph.D defense (October 10, 2014):
Antioxidant incorporation influences the shelf-life and quality of overwrap packaged ground beef stored in a high-oxygen master package before retail display
10. Food Security Faculty Position Search Committee Member, Department of Animal and Food Sciences, Texas Tech University. 2014.
11. Undergraduate Research Committee Member, Department of Animal and Food Sciences, Texas Tech University. 2014.
12. Nomination Package for Dr. Mindy M. Brashears to the 2014 American Meat Science Association Distinguished Extension & Industry-Service Award.
13. Certificate program in Food Security – Development Committee. Department of Animal and Food Sciences, Texas Tech University. 2015.
14. Nomination Package for Dr. Mindy M. Brashears to the 2015 American Meat Science Association Distinguished Extension & Industry-Service Award.
15. Food Science Faculty Position Search Committee Member, 2016.
16. Contributed to the Nomination package for the International Center for Food Industry Excellence (ICFIE) for the Campus Internationalization Award, Office of International Affairs, Texas Tech University, 2017.
17. Food Science Curriculum Committee. Department of Animal and Food Sciences, Texas Tech University. 2018-present.
18. Dean Representative. Ashley Lembke Ph.D defense. 2019. *“Comparison of a manual boneless beef trim sampling method to traditional N60 Plus Sampler™ and N60 excision sampling”*
19. Food Science PhD Program Committee. Department of Animal and Food Sciences, Texas Tech University. 2018 – Present.

COMMUNITY:

1. Planning Committee and Master of Ceremony for the “Gala Latina Event” sponsored by the Caprock Foundation on September 19, 2015. The event raised more than

\$25,000.00 dollars to promote and support local charity organizations in Lubbock and surrounding communities. The money was awarded to Women's Protective Services and the XY-Zone program.

INDUSTRY:

1. Texas Tech University Meat School en Español, speaker, 2015-Present.
2. Nonpaid technical consultation and scientific advising in food science and food safety issues to the following food industry companies and/or associations:
 1. Nebraska Beef (Omaha, NE)
 2. Vantage Foods (Chilliwack, British Columbia, Canada)
 3. Frigorífico de la Cuenca del Papaloapan, SA de CV (Merida, Mexico).
 4. Southwest Cheese (Clovis, NM)
 5. Abimar Foods (Abilene, TX)
 6. Odissey Technical Solutions (Round Rock, TX)
 7. Hilmar Cheese
 8. RYC Alimentos (Puebla, Mexico)
 9. RYC Foods (San Antonio, TX)
 10. Hydrite Chemical Co.
 11. Praters Foods Inc (Lubbock, TX)
 12. Grupo Granjas Marinas (Choluteca, Honduras)
 13. Consejo Mexicano de la Carne (Mexico DF, Mexico)
3. Food Industry companies where I have obtained internship opportunities and/or entry positions for undergraduate and graduate food science students:
 1. Abimar Foods (Abilene, TX)
 2. Coca Cola Southwest Beverages (Abilene, TX)
 3. Gandy's / Dean Foods (Lubbock, TX)
 4. Shearer's Foods (Lubbock, TX)
 5. Andalucia Foods (Plainview, TX)
 6. SunGold Foods (Lubbock, TX)
 7. CTI Foods (Saginaw, TX)
 8. SouthWest Cheese (Clovis, NM)
 9. Continental Dairy Facilities, LLC (Littlefield, TX)
 10. Purina Mills Pet Food (Lubbock, TX)
 11. Dynamic Foods (Lubbock, TX)
 12. Praters Foods Inc (Lubbock, TX)
 13. Hygiena (Lubbock, TX)
 14. Llano Estacado Winery (Lubbock, TX)
 15. John Soules Foods (Gainesville, GA)
 16. Azteca Milling / Maseca (Plainview, TX)

17. Microchem Laboratory (Austin, TX)
18. Dons Food Products (Schwenksville, PA)
19. Breedlove Foods (Lubbock, TX)
20. Illes Seasonings (Carrolton, TX)
21. Darling Ingredients (Des Moines, Iowa)

OTHER:

1. Serve as a member of the Expert Elicitation Panel for the U.S. Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS) to determine the [Costs of Food Safety Investments](#). Research Triangle Institute International (RTI International). Research Triangle Park, NC, Feb. 23-25, 2015.
2. Represented Texas Tech University at “[Challenge of Change Commission - Harnessing University Discovery, Engagement, and Learning to Achieve Food and Nutrition Security](#)”. Association of Public & Land-Grant Universities and the W.K. Kellogg Foundation. Food Safety, Sanitation and Public Health Working Group. Global Food Security Commission chaired by Provost W. Randolph Woodson (NCSU). Washington, DC, August 30-Sept 1, 2016.
3. Invited to serve as member of the A1332 Food Safety review panel for the Agriculture and Food Research Initiative (AFRI) Competitive Grants Program, 2020. *Declined due to time commitment issues during COVID-19 Pandemic.*