

ALEJANDRA RAMIREZ HERNANDEZ

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QUALIFICATIONS SUMMARY

More than six years of scientific and research experience working on applied food safety microbiology. Major areas of experience, and strengths include microbiology, working knowledge of food safety and food security, molecular biology techniques, food processing technologies, and antimicrobial resistance in pathogenic bacteria. Moreover, strong communication skills (Spanish and English), technical writing, project management, and data analysis.

EDUCATION

Texas Tech University. Lubbock, TX. January 2015- May 2019
Animal and Food Sciences Department

Doctor of Philosophy (Ph.D.)- Animal Science

Area of Specialization: Food Microbiology and Food Safety

Dissertation: 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.

University of Nebraska-Lincoln. Lincoln, NE. August 2012- August 2014
Department of Food Science and Technology.

Master of Science (MS)- Food Science and Technology

Area of Specialization: Food Microbiology

Thesis: Adherence Inhibition of Human Pathogens *Campylobacter jejuni* and *Campylobacter coli* by Non-digestible Oligosaccharides.

University of La Sabana. Bogota-Colombia. January 2008- August 2012

Bachelor of Engineering (BE)- Agro-industrial Production Engineering

Area of Specialization: New Processing Technologies

Thesis: Block Freeze concentration of aqueous coffee solutions

PROFESSIONAL EXPERIENCE

Purdue University. West Lafayette, IN. June 2019- Present
Food Science

Postdoctoral Research Associate

- International extension and research program in food safety microbiology.
- Conduct and develop trainings to farmers in Good Agricultural Practices (GAPs) and food processors in Good Manufacturing Practices (GMPs).

Corbion. Lenexa, KS. January-May 2019

R&D Intern

- Evaluated the efficacy of potential antimicrobial interventions to reduce pathogens contamination on poultry meat products.
- Technical support in the validation of antimicrobial interventions in chicken and beef processing plants in South America.

Texas Tech University. Lubbock, TX. January 2015-December 2018
Animal and Food Sciences

Research Assistant/ Pathogen Lab Manager

Advisors: Dr. Mindy Brashears, and Dr. Marcos X. Sanchez-Plata.

- Performed research on the microbial profiling of poultry processing operations.
- Researched the phenotypic and genotypic characteristics of antimicrobial resistance of poultry-associated pathogens recovered from processing plants in the United States and in Colombia.

- Conducted validation studies to evaluate the efficacy of antimicrobials to reduce *Salmonella* on chicken parts.
- Assisted with HACCP and cGMPs training programs in Central America and South America.
- Supervised undergraduate research projects

Nestlé-Gerber USA. Fremont, MI.

July-December 2015

Intern- Microbiology

- Developed and conducted research on the extended holding times of low acid ingredients for baby foods.

Texas Tech University. Lubbock, TX.

September-November 2014

Intern-Research Assistant

Animal and Food Science Department. International Center for Food Industry Excellence.

- Researched the prevalence of *Salmonella* spp. in shrimp products from local grocery stores in Lubbock, TX.
- Conducted research on antimicrobial resistance profiling of *Salmonella* strains isolated from Mexican retail meat products.

University of Nebraska-Lincoln. Lincoln, NE.

August 2012-August 2014

Food Science and Technology

Research Assistant

Advisor: Dr. Robert W. Hutkins.

- Performed research to evaluate the anti-adherence properties of non-digestible oligosaccharides against *Campylobacter* spp. in tissue culture cells.
- Handled teaching of food microbiology laboratory and science of food undergraduate and graduate-level classes.

University of Nebraska-Lincoln. Lincoln, NE.

January 2012-May 2012

Intern- Research Assistant

University of Nebraska-Lincoln, Food Science and Technology Department. 2012-

- Characterized the probiotic properties of *Bifidobacterium adolescentis*.

PUBLICATIONS

Ramirez-Hernandez, A., Garcia-Varon, Carrascal, A.K., Brashears, M.M., Sanchez-Plata, M.X. Genotypic Screening of Antimicrobial Resistance *Salmonella* Strains from Three Poultry Processing Plants in Colombia. *Under Review* in Foodborne Pathogens and Disease, 2019.

Ramirez-Hernandez, A., Bugarel, M., Sanjay, K., Harshavardhan, T., Brashears, M.M., Sanchez-Plata, M.X. (2019). Phenotypic and Genotypic Characterization of Antimicrobial Resistance in *Salmonella* Strains Isolated from Chicken Carcasses and Parts Collected at Different Stages During Processing. *Journal of Food Protection*, 82 (10): 1793-1801.

Ramirez-Hernandez, A., Inestroza, B., Parks, A., Brashears, M. M., Sanchez-Plata, M. X., and Echeverry, A. (2017). Thermal Inactivation of *Salmonella* spp. in High-Fat Rendering Meat Products. *Journal of Food Protection*, 81 (1): 54-58.

Ramirez-Hernandez, A., Mindy, M. M., Sanchez-Plata, M. (2017). Efficacy of Lactic Acid, Lactic Acid-Citric-Acid Blends, and Peracetic Acid to Reduce *Salmonella* on Chicken Parts Under Simulated Commercial Processing Conditions. *Journal of Food Protection*, 81 (1): 17-24.

Ramirez-Hernandez, A., Garcia-Varon, A., Sanchez-Plata, M. (2017). Microbial Profile of Three Poultry Processing Plants in Colombia. *Journal of Food Protection*, 80 (12): 1980-1986.

Ramirez-Hernandez, A., Rupnow, J., Hutkins, R. (2015). Adherence Reduction of *Campylobacter jejuni* and *Campylobacter coli* Strains to HEp-2 cells by Mannan Oligosaccharides and High-Molecular-Weight Component of Cranberry Extract. *Journal of Food Protection*, 8: 1496-1505.

Alejandra **RAMIREZ H,** Fabián L. MORENO M, Ruth Y. RUIZ. 2012. Block-freeze concentration of aqueous coffee solutions). Revista de la Facultad de Química Farmaceutica VITAE 19 (supl. 1), S54-S56. Medellin, Colombia.

PROFESSIONAL DEVELOPMENT

Produce Safety Alliance-Train-the-trainer course. Sept 11-12, 2019, Baton Rouge, LA.

Data scientist with R track. January 2019- Present.

Whole genome sequencing: A tutorial and hands-on workshop to help understand this emerging technology. International Association for Food Protection. Salt Lake City, UT. July 6-7, 2018.
Quantitative microbial risk assessment interdisciplinary instructional institute. University of Washington, Seattle, WA. August 4-14, 2017.
ServSafe Certified. National Restaurant Association. August 11, 2016.
Meat School *en español*. Texas Tech University. Lubbock, TX. June 23-29, 2016.
FSPCA preventive controls for human food workshop. Food Safety Preventive Controls Alliance. Texas Tech University. Lubbock, TX. June 13-15, 2016
Poultry School *en español*. University of Georgia-Athens. January 29- February 3, 2016.
FSMA- Food safety modernization act workshop. Texas Tech University. Lubbock, TX. February 13, 2015.
Implementation of your company's HACCP plan. University of Nebraska-Lincoln. Omaha, NE. July 8-10, 2014.

HONORS

- Graduate Student International Research Award. Texas Tech University. April 2018.
- Doctoral Dissertation Completion Fellowship. Texas Tech University. March 2018.
- First place in the 16th Annual Graduate Student Research Poster Competition. Division in Natural Science. Texas Tech University, March 24th, 2017.
- Second Place in the Bod Albin Outstanding Ph.D. Graduate Student Research Award. Department of Animal and Food Sciences, Texas Tech University, April 2016. Lubbock, TX.
- 3- A Sanitary Standard Inc., 2015 Education Program, and Meeting. Student Travel Scholarship. May 2015, Milwaukee, WI.
- AT&T Chancellor's Fellowship. The honor is given to outstanding prospective students of Texas Tech University, January 2015. Lubbock, TX.
- Second place in the IFT Food Microbiology Division Graduate Research Paper Competition at the 2014 IFT Annual Meeting & Food Expo. New Orleans, LA.
- Achievement of excellence in the Department of Food Science and Technology at the University of Nebraska-Lincoln, 2014. Lincoln, NE.
- Academic proficiency scholarship awarded 100% scholarship for the entire course in Agroindustrial Production Engineering at the University of La Sabana, 2010. Colombia
- Distinguished as outstanding student 2008, 2009, 2010 and 2011 in the program of Agroindustrial Production Engineering at University of La Sabana. Colombia.

LANGUAGES

- Spanish-Native language
- English- Second language

RESEARCH INTERESTS

- Microbial dynamics on food processing operations
- Antimicrobial resistance of foodborne pathogens
- Pre-harvest and post-harvest interventions to control foodborne pathogens